United States Circuit Court of Appeals

SIXTH CIRCUIT.

GEORGE E. VANDENBERG,
Appellant,

vs.

TRUSCON STEEL COMPANY, a Corporation,
Appellee.

Eq. No. 500.

APPELLEE'S BRIEF.

W. F. GUTHRIE,
Youngstown, Ohio,
E. N. PAGELSON,
Detroit, Mich.,
Attorneys for Appellee.

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APPELLEE'S BRIEF.

(Numerical references generally are to paging of the printed transcript. Preceded by "Br.," they are to appellant's brief.)

IN LIMINE.

Appellant's brief nowhere complies with the rule requirement of reference to the record. Except that patents referred to in appellant's brief by name and number may be located through the index to the record, all other statements of fact in the brief are *ipse dixit* of counsel. Largely the brief incorrectly states specific facts in the record, draws unwarranted conclusions of fact from the record or asserts matters claimed by counsel in no wise referred to in the record. Neither court nor opposing counsel should be called upon to waive the rule concerning reference and wander through the record in search of confirmation or disproof of appellant's assertions. Nor should opposing counsel be required to

unduly extend this brief by quoting *in extenso* from appellant's brief the erroneous statements therein in order to refute them by record references.

Appellant's brief should be stricken from the record and the judgment affirmed.

Should the Court, of grace, undertake the consideration of the appeal on the record as a whole, answer brief may be necessary.

The opinion in the court below considers the issues more comprehensively than in any of the four other opinions written upon the invitation of other briefs upon other records, and it is a correct analysis as far as it goes. We think it goes far enough.

However, claim No. 3 of the reissue patent, one of the three claims in controversy here, was upheld by the Court of Appeals in the Second Circuit (in an opinion indicating, in the matters determined, that counsel there contesting the patent were satisfied to attack it only upon the limited grounds considered by the court), and, in the Third Circuit, the patent was assumed to be valid for the purposes of that case because its validity was immaterial in view of the opinion of the court that there was no infringement. If we were disposed, as is appellant's counsel, to make assertions based upon recollection and personal observation, we might state, therefrom, that Judge Buffington, after extending the time and listening for nearly six hours in an apparently vain effort to comprehend the contentions of counsel, having learned, at least, that the patent in suit was a mere paper patent which had "made no impress on the art" (263 F. 97) and that the new claims of the reissue "were only added 9 years after his patent was granted, to make infringers of those who had used other forms of attachment than the kerf and over-lapping spur" (263 F. 97), began looking through the exhibits to discover whether there was not

in the lack of infringement, a short cut to disposition, and, after studying defendant's structure, directed counsel to address themselves thereafter to the question of infringement. So there has never been full consideration of the merits of the patent in suit.

The appellee in this case has transacted a large business in its structure—"column hooping." It cannot afford to take any risk whatever by failing to elaborate to this Court, more fully than in the opinion below, defences to the patent there disclosed, or by failing to call attention to other defences which the trial court did not pass upon in view of its judgment as to the sufficiency of what was discussed. Accordingly, we beg the indulgence of the Court in presenting the following argument.

For the sake of as much brevity as possible in a comprehensive presentation of the defences, we shall endeavor to present them consecutively and as succinctly as possible, attaching referred-to *appendices,* to which the Court may turn for a more elaborate consideration of any proposition not deemed sufficiently disposed of in the primary presentation.

STATEMENT.

Opinions covering various phases of fact and law pertaining to this patent have been written by five judges.

District Judge Orr, at Pittsburgh, filed an opinion at the May Term, 1917 (259 F. 579), in the *Electric Welding Company* case, finding, as a fact, from certain features of appellant's description, hereinafter more particularly discussed, that appellant had a purposeful intention that the coils of his device should be "rigidly" secured in the bar thereof against movement at the point of attachment, and, therefore, that it did not have the

commercial feature of defendant's structure of being collapsible for convenience in transportation (which, it appears from the opinion, was contended by defendant's counsel in the trial before Judge Orr, to be an essential of appellant's alleged invention), so that the reissue claims alleged to cover a *collapsible* structure could not be asserted against the intervening rights of others. Judge Orr, however, held it unnecessary to decide the case on this ground, being satisfied that there was *no invention* in the adaptation of the old kerf and tongue method of affixation to the old spaced continous coil, even if there was no direct and complete anticipation. For this reason he did not decide the questions of direct anticipation and infringement, merely saying that if the patent could be sustained at all, it must be sustained in so limited a scope that there was no infringement.

While the appeal from Judge Orr's decision was pending, an opinion was filed in the District Court, New York, by Circuit Judge Hough on May 13, 1918, in the *Concrete Steel Company* case. Judge Hough's opinion does not appear to have been printed in the reports. We copy it as Appendix "A" to this brief (*infra*, p. 36). Judge Hough found that the appellant's device was not for the structure known as column hooping at all, but for a "reinforcing bar, not attached to a *continuous* spiral, but to spirals *inclined in opposite directions from the center,*" and that Fig. 4 of the patent, relied upon by appellant as showing the continuous spiral, was a mere detail of one end of the reinforcing bar (a proposition more elaborated hereinafter in this brief); that the original contemplation of appellant was for a purposely "rigid" attachment of his spur to his bar, broadened in the reissue "to catch manufacturers like the defendant," but not considering the intervening rights of manufacturers of collapsible column hooping, which, the opinion re-

cites, was asserted to be the claimed invention of appellant "because it is thought clear that *rigidly* is *exactly* what the patentee meant." Thereupon Judge Hough decided that the reissue was unlawful as to the claims alleged to read upon a *collapsible* structure, and not infringed by the claims repeated from the original patent, construed, as they must be, by reference to the supporting disclosure. He held, as stated by Judge Westenhaver, "that the only invention revealed by the specification is the *exact* construction described and pictured in Figs. 1 and 6" of appellant's patent. He does *indirectly* hold that there was no invention as pertaining to such a device as was used by the several defendants. But that is a special question pertaining to what appellant actually thought he was inventing, which we prefer to discuss separately.

The next opinion was filed by Judge Ward in the Court of Appeals for the Second Circuit, April 16, 1919 (258 F. 143). Why, the appeals being prosecuted by the same appellant, the decision of Judge Hough made May 13, 1918, reached final disposition April 19, 1919, while the decision of Judge Orr at the May Term, 1917, did not reach opinion in the Third Circuit until February 19, 1920, is not disclosed in the record. This feature will be commented upon as a matter of surmise later.

It is to be presumed that the Court of Appeals in the Second Circuit gave attention to all questions urged by counsel for its consideration. The opinion makes no reference to the prior art. Apparently the court was not asked to consider the prior art. The opinion indicates that the contentions presented were that claims 1 and 2 of the reissue were invalid for unjustifiable broadening upon reissue, and that the defendant's structure did not infringe because the plaintiff's structure was rigid and the defendant's structure collapsible. The Second District

Court's opinion shows how largely the controversy up to that time had raged around the questions of whether plaintiff's structure was collapsible, the holdings to that time being that because plaintiff's structure was not collapsible and the respective defendants' structures were, the latter did not infringe.

The Court of Appeals for the Second Circuit concurred in the two previous opinions that claims 1 and 2 of the reissue were invalid. It also concurred in the finding that plaintiff's disclosure of structure contemplated "rigid" connection between the coils and the bar. But the Court held that to merely loosen the connection so that the structure would be collapsible, while "a commercial improvement for the purposes of shipment" was only an improvement involving the substantial appropriation of the idea patented to the plaintiff, and therefore infringed certain claims of the plaintiff which had *not been changed* on reissue.

The court does not discuss the questions subsequently raised before Judge Westenhaver and discussed in his opinion, as far as he found it necessary to decide them, nor still further contentions made in this brief.

Having thus procured a decision upholding unchanged claims 3 and 5 of his reissue in a case where opposing counsel was apparently satisfied to limit the range of controversy, (and this, we surmise, is the reason appellant pushed his case in the Second Circuit while holding back the appeal in the more fully presented case in the Third) plaintiff completed his appeal in the Third Circuit, where a decision was rendered on February 19, 1920 (263 F. 95). The decision was based on non-infringement, and we presume the denial of rehearing was a refusal to reconsider this proposition. The court did not consider the question of invention for the reason that even though, as the court found as to the particular

special "kerfed combination," it was novel, nevertheless it was such a "narrow contribution to the art" upon which it had "made no impress," that it was entitled only to most specific application at the best and, so considered, was not infringed. Accordingly, the court felt justified in avoiding the consideration of invention and "*assuming* for *present* purposes, as we will, that it embodied invention." We feel justified in thinking that if the court had regarded appellant's "assumed" invention as a meritorious contribution to the art, it would have been less ready to hold so substantial an equivalent of appellant's method of attachment to be non-infringing. As Judge Westenhaver says, if the Court of Appeals of the Third Circuit were to be followed, appellee's construction could also be equally well held non-infringing. Judge Westenhaver preferred to dispose of the case upon broader grounds presented for his consideration.

It is to be noted that in the Court of Appeals for the Third Circuit, as in the instant case, appellant was relying only upon unchanged claim 3 of the reissue, despite the support of his unchanged claim 5 in the Second Circuit.

The Court of Appeals of the Third Circuit concurred in holding broadened claims 1 and 2 of the reissue "unrestricted by the limitation on kerf and spur, * * * only added 9 years after his patent was granted" invalid (263 F. 97, "2").

Then, for the first time, in the court below, was the distinction between "rigidity" and "collapsibility" as negativing infringement not advanced as the *principal* ground of defence, and other attacks from various angles made directly upon the patent itself. Judge Westenhaver sustained a number of these attacks. Others will be included in this brief.

HISTORY OF THE PATENT IN SUIT.

Appellant claims to have conceived his alleged invention and reduced it to practice in 1903. He attempts to prove this by himself and his witness Blethyn. The evidence is found on pages 93, 96, 97 and 100-110 of the record. As predating evidence is required to be clear, certain and specific as to facts, as well as convincing in volume; as the very controversy here is as to just what the invention really was; and, as this testimony does not apply to columns at all, and gives us no idea of what appellant claims to have done in respect even to beams, except that he had a notched bar with wires through the notches, we feel that the conclusion of the court below that the invention cannot be dated back of the application date for any purpose needs no further discussion.

The gauzy theories of appellant developed into his specific application on May 9, 1906, and the patent was granted January 22, 1907 (213) after appellant, in the Patent Office, had made certain concessions to the Examiner's references by assertions as to what he was inventing, which will be hereinafter referred to.

Reinforced concrete construction, other than the mere binding with steel of massed concrete in foundations, commenced with the steel reinforcement of concrete beams or girders, in which steel rods were laid at the bottom of the beam to resist extensions under loads, the concrete above serving to resist the corresponding compression in the upper part. It was soon learned that the steel tension rods at the bottom would be more effective if connected with smaller members running therefrom either at right angles or in diagonals each way from the center. These stirrups or diagonals can be seen in almost any reinforced concrete beam construction of the present day. A special type of such a "reinforcing *bar*," with diagonals, was invented by Kahn, the

president of appellee company in 1902 (248) and was the foundation of the business of appellee company. Other patents on methods of using these diagonals in connection with the *main* reinforcing bar (more particularly referred to *infra*) shortly followed.

Columns were needed to support the beams; but, in the early art in this country, these columns were created by the use of a beam stood on end, with reinforcing *bars* on OPPOSING *sides* of such columnar beam, as described in the Kahn patent (lines 12 to 19, p. 253 of record), and in Fig. 6 of the patent in suit.

There had been suggestions of the use of *continuous spiral coils* around columns, and even in beams, prior to the literature of Considere, a French engineer; but Considere was the first to elaborate the *stresses* of concrete in columns, as distinguished from beams, and to impress on the art the value of *encircling* steel to resist the tendency of the column under pressure from above to *break out laterally* or spawl (411). This encircling binding of the columns became active abroad about 1902 and they began to adopt it in this country following the publication of Considere's book in 1903. Like all ideas, its use developed progressively with experience and extended knowledge, and patents on various devices of continuous encircling spirals or independent encircling bands continued to come out of the Office long before appellant's application (273, 279, 283, 287, 290, 293, 296, 300, 304, and 306).

Largely, these patents contemplated a structure which could be fabricated in the factory, but which would be collapsible in shipment to the job, a commercial requirement, as otherwise the structures would be cumbersome in transit.

The general development of this special structure for columns in the practical art, as distinguished from

the Patent Office, is recited in the record (58, 60, 81 and 82).

The practical construction of this type of columnar reinforcement, the accepted trade name of which is "column hooping," involved the use of spacer bars, to hold the encircling reinforcement in place until after the concrete was poured, and, in practical necessity, involved the use of at least two spacer bars, opposite each other, and often more than two of such spacers.

This type of construction having gone into general use, the appellant, (whose original conception pertained only to a beam construction with *looped* instead of straight oppositely extending diagonals on the main "bar" for beam reinforcement) in 19*16*, conceived the idea that a *detail* of a "modified form" of his reinforcing *bar*, shown in Fig. 4 of his patent of 19*06*, disclosed the idea of a *continuous* spiral; that while Fig. 4 showed only *one* bar, it justified the conception of using a *plurality* of spacer bars on such continuous spiral; and that if he could get rid of the rigid, non-collapsible element of his specification and claims, and date new claims in reissue back, he could monopolize the column hooping art as so interveningly developed. He accordingly filed his application for reissue on July 1, 1916, and the patent was reissued six weeks later.

During the intervening more than nine years, no one had been induced to use appellant's construction. It was impracticable (even in an up-ended beam) in that the loops interfered with the proper pouring of the concrete (63, 159). After his reissue, a Chicago concern, which had built a building in San Francisco, took out a license as cheaper than defending an infringement suit in California, but is not shown to have thereafter built anything. After the appellant's patent was sustained by the Court of Appeals of the Second Circuit, a Buffalo concern took

out a license (35). As noted, *supra*, all the courts have joined in finding that appellant "made no impress on the art."

QUESTIONS INVOLVED.

(1) The patent in suit is a mere paper patent, entitled to consideration no less and no more than patents of that character.

(2) Appellant did not invent "column hooping" at all, and had no idea that he had made such invention until after column hooping came into general use. Practical men, expert witnesses on both sides below and the Patent Office saw nothing suggesting column hooping in appellant's patent.

(3) The patent contained no sufficient disclosure of information concerning "column hooping" to justify claims reading thereon.

(4) If appellant actually had a conception of column hooping, there was no invention, in view of the prior art.

(5) The application for a reissue constituted a concession by appellant that his *original* patent did not cover the invention now claimed; and a broadening of the claims was invalid, even though otherwise justified, in view of the intervening rights of defendant and others.

(6) The reissue was invalid because there existed no jurisdictional facts justifying the reissue. The original patent was surrendered upon reissue. Accordingly, appellant has no patent at all.

(7) Under any construction of the patent and claims which would support their validity, there is no infringement.

DECISIONS IN OTHER CIRCUITS.

Before coming to the merits, we have the following preliminary question:

It is reiterated in appellant's brief that this patent has been upheld in the Second and Third Circuits, and therefore should be upheld in this.

Also, extended argument is made by appellant against decisions elsewhere that claims 1 and 2 of the reissue are invalid. Sauce for the goose should be sauce for the gander. All five previous opinions have concurred in holding directly and squarely that claims 1 and 2 of the reissue are invalid.

On the other hand, the Court of Appeals of the Second Circuit decided only the questions that were presented to it, as disclosed in its opinion. It did not have before it the evidence presented in the court below. So far as it may, if it did, have part of that evidence before it, the questions raised by that evidence were not presented to the court except to support the contention that appellant's structure was not collapsible and the structure of defendant in the *Concrete Steel Company* case was collapsible, which the court held was only an improvement, including the substantial elements of the otherwise uncontested patent, and therefore infringed the patent as so otherwise not contested. (or assume for purpose of decision

The Court of Appeals of the Third Circuit did find that the "combination," as far as all of the elements of of the combination were concerned, was new and useful. We do not contend that the prior art *explicitly* and *affirmatively* disclosed the identical kerf and spur element in combination with a continuous spiral and a spacer bar, (although appellant's expert says it would be *inferred* as an incident of certain drawings referred to *infra*). Our more conclusive contention, in that particular respect, is that there was no invention in using that form of

affixation as a *preferred* element in a combination otherwise shown, and that the method of attachment was a mere matter of personal choice of one familiar with the metal working art involved. The Court of Appeals of the Third Circuit did not have this question directly befort it, in view of its conclusion that there was no infringement anyway, so that, accordingly, it only "assumed" invention in this respect "for present purposes."

The other questions presented by the instant record have not before been *directly* considered, although opinions on the patent in suit as hereinafter pointed out, support, by strong inference at least, the contentions made *infra*.

Even when there has been a decision in another circuit *directly* in point, upon the same proposition, while it is strongly persuasive, it is not controlling against a contrary judgment on the part of the second tribunal. It should be followed only when the second tribunal is "in doubt" as to what its decision should be.

Mast, Foos & Co. vs. Stover Mfg. Co., 177 U. S. 485;

Searles vs. Worden et al., 11 Fed. 501;

Torrey et al. vs. Hancock, 184 Fed. 61;

National Cash Register Co. et al. vs. American Cash Register Co., 53 Fed. 367;

Curtis vs. Overman Wheel Co., 58 Fed. 784;

Beach vs. Hobbs, 92 Fed. 146;

Hatch Storage Battery Co. vs. Electric Storage Battery Co., 100 Fed., 975;

Doelger vs. German-American Filter Co. of N. Y., 204 Fed. 274.

THE PATENT IN SUIT IS A MERE PAPER PATENT, ENTITLED TO CONSIDERATION NO LESS AND NO MORE THAN PATENTS OF THAT CHARACTER.

On this proposition we deem it unnecessary to go further than refer to the remarks of Judge Buffington (263 F. top of page 97); of Judge Hough (*infra*, p. 37) and the Court below (475). The original patent "made no impress on the art." "There is no proof at all that plaintiff has contributed to that growth." "He has contributed nothing to the progress of reinforced concrete construction." The reissue patent was obtained "to make infringers of those" who had built up the practical art. "The evidence makes it plain that this change was made to catch manufacturers like defendant."

The consideration to be given such a paper patent is too well known to call for citation of authorities.

In another connection (*infra*, p. 48, *et seq.*) it will be pointed out that the Patent Office, as well as practical practitioners of the art and experts in the court below failed to find in appellant's patent even a *suggestion*, much less a *disclosure*, of the "column hooping" in practical use.

APPELLANT DID NOT INVENT "COLUMN HOOPING" AT ALL AND HAD NO IDEA THAT HE HAD MADE SUCH INVENTION UNTIL AFTER COLUMN HOOPING CAME INTO GENERAL USE. PRACTICAL MEN IN THE ART, EXPERTS ON BOTH SIDES BELOW AND THE PATENT OFFICE SAW NOTHING IN APPELLANT'S PATENT SUGGESTING COLUMN HOOPING.

The term of the patent in suit, "reinforcing bar" is well-known and used to describe a rod or bar used to reinforce a concrete beam against the lower stress of tension resisted by the compression of the concrete in the upper part of the beam. Such *main* reinforcing *bar* may have *minor auxiliary* members attached running into the beam vertically or in diagonal directions opposite from the center to transmit the stress of the concrete to the bar, develop truss action by a combination of the steel and concrete, and resist certain diagonal shear which develops toward the respective ends of concrete beams. The tensional stress resisted by the bar is *longitudinal* of the bar itself. Column hooping consists of independent spaced circular bands or a continuous spiral so closely spaced as to serve as an encirclement practically at right angles to the length of the column, used for the purpose of resisting the *lateral expansion* of the concrete under the superimposed load. The stress resisted by the encirclement of column hooping is *not longitudinally* of the band or rod of which it is composed, but *directly against* it.

Any structure of wood, iron, concrete or otherwise, having any effectiveness as a beam will have some effectiveness as a column if stood on end. But the stresses to be met are different. Before the necessity of reinforce-

ment against the lateral expansion of concrete under pressure in columns was recognized, concrete columns were reinforced by longitudinal rods; but, in such case, whether the rods were plain rods, or had minor auxiliary members running into the concrete, similar reinforcement was placed on each side of the column or at each corner of the column.

At the time of his application and of the issuance of his patent, and until the art of column hooping had obtained wide spread recognition within the nine years following, and appellant sought a reissue in the hope of monopolizing this other art, appellant had no conception of the use of *continuous* spiral encirclement *around* columns to resist expansion from within outward. Appellant's only original conception was of a *main* longitudinal *reinforcing bar* for use in beam construction with auxiliary *looped diagonals* running up *into* the concrete, not in a spiral continuous from one end of the structure to the other, but in spirals running in opposite directions from the center of the structure. Appellant's only conception of the use of his device in columns was by placing his reinforcing bars on opposite sides of the column as shown in his Fig. 6.

Appellant's attempt to monopolize the column hooping art upon the theory that he had invented the use of a spiral continuous from end to end, the coils of his spirals being seated in kerfs of a longitudinal bar beneath overlapping spurs, is based upon Fig. 4 of his patent. But Fig. 4 of the patent is not intended to represent a *complete* reinforcing unit, but is only a *detail* of *one-half* of a modified form of appellant's looped diagonaled reinforcing tension bar for beams. It is only intended to show how *one end,* or one-half, of a *complete* structure might be constructed by the use of a *single* coil instead of the *preferred double* coils or loops elsewhere shown in each of the other drawings.

The foregoing conclusions as to the nature of appellant's invention are confirmed by the prior art in reinforcement for beams upon which appellant sought to improve; by the explanations of the patent itself as to the purposes appellant deemed essential to his structure and accomplished by it; by the explanations of the patent itself as to what part of the drawings represented the main structure and what represented details; by the fact that a coil continuous in a single direction throughout the structure could not accomplish the alleged purposes of the patent; by the testimony of appellee's witness, Professor Turneaure, Dean of the Engineering School of the University of Wisconsin, an author of high and long recognized standing, whose qualifications were admitted by appellant's counsel; by the admissions upon cross-examination of appellant's expert Thayer, agreeing in practically every detail with Professor Turneaure; by the fact that no practical man in the art had ever recognized appellant's patent as applying to column hooping construction or sought or accepted a license, or, even as to beams, been willing to use appellant's structure; by the fact that the Patent Examiner, who allowed appellant's patent, and who had previously allowed applications on column hooping construction, confined his references against the application to features of prior beam reinforcing patents, making no reference to the prior column hooping patents; and by the fact that the same Examiner, in allowing several succeeding column hooping patents, in no single case cited appellant's patent, which he had allowed, as a reference against the latter applications, although it is conceded by appellant's witness Thayer that if appellant's structure covered column hooping, the subsequent patents should not have been issued in view thereof.

It seems strange, in view of the foregoing, but nevertheless is a fact, that in none of the prior litigation over this patent was the question directly raised as to whether appellant had in mind the invention of anything but an improved type of the oppositely extending diagonals of the longitudinal tensional reinforcement of the prior art. Circuit Judge Hough, however, considered this phase of the patent incidentally upon the question of rigidity or collapsibility, finding that although Fig. 4, taken alone as a complete structure, might have been collapsible, appellant did not intend to use a collapsible structure because Fig. 4 only disclosed a modified form of using the coil in the same manner as in Fig. 1 "so as to be rigid, truss-like and non-collapsible." Judge Orr also partly reached the conclusion of non-collapsibility through a similar line of reasoning. The question was directly submitted to Judge Westenhaver, but he passed it as immaterial in view of his findings against the patent upon other grounds.

A detailed analysis of the patent and a presentation of the testimony supporting our statements above as to the real nature of appellant's invention and the views of men in the practical art, of expert witnesses and of the Patent Office, would unduly lengthen this title of the brief. This Court, also, may dispose of the case upon other grounds. The Court can satisfy itself of the propriety of our contention under this title by turning to the elaboration of the contention *with complete reference and quotation* as found in Appendix "B," (*infra*, p. 41).

THE PATENT CONTAINED NO SUFFICIENT DISCLOSURE OF INFORMATION CONCERNING COLUMN HOOPING.

Disclosure co-extensive with the claims is the consideration of temporary patent monopoly. Whatever the appellant's own idea was, he can claim no more than he has told the public how to freely use after the patent expires. It is of the essence of such consideration that the information be given so as to be reasonably comprehensible by the average man of average skill. Otherwise, the consideration fails. *Patents are not to be sustained through strained efforts to interpretively piece out of the specifications something which might sustain the claims.*

As is pointed out under the preceding title of this brief, the Examiner who considered appellant's original application, made reference only on the theory that it was for beam construction. No references were made to the prior art of encircling enclosures of columnar concrete to resist expansion of the column under superimposed pressure.

In considering column hooping applications subsequent to Vandenburgh, the Examiner could see in appellant's patent nothing to be cited in the consideration of the column hooping art.

Appellee's expert, Turneaure, could see nothing in the patent suggesting column hooping. Appellant's expert, Thayer, under persistant cross-examination could point out *specifically* nothing suggesting column hooping.

Appellant has never been able at any time to induce anybody to use his structure for any purpose. It has never been erected anywhere. Practical men in the art proceeded with its development commercially, and inventors of improved details proceeded with their applications, and nobody thought of applying to appellant for a license.

While column hooping was in use in thousands of buildings throughout the country, appellant never even threatened infringement suits under his original patent. He apparently had no idea that his original patent either covered or contemplated anything of the kind. It was only after somebody, somewhere, conversant with the wide use of column hooping, having conceived the idea that, by use of appellant's detail Fig. 4, in connection with additional claims in *reissue*, this developed art could be monopolized, that there was thought of putting appellant forward as the basic genius in the column hooping art. Even the inspirer of this scheme did not consider that any claims in the original patent covered column hooping. The reissue was supposed to be necessary to get claims that did. It was only when the claims added upon reissue were held invalid that reliance upon original claims, first 3 and 5 of the reissue, now only 3 of the reissue, was asserted. Even now, appellant's brief, from pages 34 to 45 inclusive, is devoted to an effort to show that all of the judges who have decided the new claims upon reissue to be invalid were wrong. This is a quite patent recognition that the claim of the original patent, now claim 3 of the reissue, will not support appellant's case.

In view of all of the foregoing evidence that appellant's original patent did not disclose the special structure of column hooping, adapted functionally to meet the special needs of columnar construction, with sufficient clarity for ordinary apprehension, how can it be said that appellant gave the public the benefit of a disclosure which would support his present claims?

IF APPELLANT ACTUALLY HAD A CONCEPTION OF COLUMN HOOPING, THERE WAS NO INVENTION, IN VIEW OF THE PRIOR ART.

Lack of invention may be established either:

(1) By showing a direct and complete anticipation, disclosing all of the elements of the claims of the patent in suit. This is often a difficult matter in case of combination patents including many elements; or

(2) By showing that all the elements in the combination were old, even though the particular combination in itself was new; that the functional purpose achieved by the combination was old; and that it was a mere matter of choice and preference with an artisan, familiar with the same or analogous arts, to select for the combination the element which in his judgment, considering the problems of economy in materials, fabrication, or special use, were best suited to the particular case of employment of the combination contemplated.

We confidently assert that the record discloses a direct and complete anticipation.

In using, immediately above, the term "direct anticipation," we use it, not in the sense of a "kerf *and* over-lapping spur" but in the sense of the structure of appellee shown in Exhibit No. 2 (211) and more in detail in respect to the method of attaching the spacers to the coils in a larger photograph (217) where defendant does not have a "kerf and spur," but has rectangular notches in the leg of a "T" spacer, the coil being inserted in the notches, and the edges of the notches being afterwards "peened" down on *each* side of the notch so as to loosely hold the coil in the notch. If this structure of appellee is within the terms of appellant's claim, then the disclosures in the earlier art of the same construction "directly" anticipate the "kerf and over-lapping spur."

In the patent to Kieserling & Moller (395), disregarding the bulged-out base, which appellant's witness Thayer notes as the only distinction between the disclosure of this patent and the disclosure of appellant's patent, we have, quoting claim 3 of the patent in suit, the only one in issue not repeatedly declared invalid; "a reinforcing bar (if a longitudinal spacer is a reinforcing bar) provided upon one edge with a series of kerfs (see Kieserling's Figs. 5 and 7a, adjoining 5 on the right) each having an integral over-lapping spur (if rectangular notches peened down constitute over-lapping spurs), and a coil disposed in said kerfs, each convolution thereof being retained beneath one of said spurs" (if retention under the peened edges of the rectangular notches constitutes such retention).

Kieserling's rectangular notches are shown in Fig. 7c at the upper right corner of page 395 of the record, in which "is shown *advantageous* embodiment in which the wire 'h' is connected with the studs so as to be capable of resistance in *both* directions, which is not the case in the embodiment illustrated in Figs. 5 and 7c." It is true that Kieserling does not, in his drawing, disclose the rectangular notches of his Fig. 7c peened down, or state specifically in his description that they are peened down. But, Kieserling does state that both Figs. 7b and 7c are for the *same* purpose, providing resistance "in *both* directions" not the case with his open kerfs shown in Figs. 5 and 7a. His Fig. 7b shows this retention in "both" directions by running his coil through the hole in his spacing member, and the same retention, for the same purpose, in the rectangular cuts of Fig. 7c could only be accomplished by "peening" them. Kieserling also discloses the functions of *complete* retention of the rings in his Fig. 2, where the rings are retained by bending the spacer around each ring, as described in page 319 of the record.

Appellant's witness Thayer states that "peening * * * was well-known in the metal working art before Vandenburgh" (171) and that he "imagines" that Kieserling accomplished the *obvious purpose* by the *obvious method* of having the cuts "pounded down. * * * That would be the natural thing to do, that would be the assumption" (172). "I would imagine that could be done" (173). The old method of peening, in the metal working art, is disclosed in the patent to Prescott & Bennett (233) in Fig. 3, called to the attention of the witness Thayer, the description of the Prescott & Bennett patent (covering a continuous cylindrical coil, held in spacer bars, for the purpose of use as a revolving sand screen) stating the coils in the notches of the spacer to be "*hammered* so as to cover the coil, thereby holding the latter in place on the longitudinal bars" (174).

But we are not called upon to rely upon a direct, specific and complete anticipation. The concrete engineer, desiring to use continuous cylindrical coils, held in spacer bars, for the columnar construction recommended by Considere, must apply to the manufacturer in the metal working art for the production of his structure, or employ metal workers himself therefor. Appellant admits that column hooping, as a type of construction, was old, but contends that his combination was novel, in that it included the "kerf and over-lapping spur," as an element in his combination of the entire structure and that it was new to use such element in such particular combination.

Thayer admits that:

> "It was old at that time in metal working and engineering, wherever you had occasion to connect a transverse and longitudinal member, to connect it by tying it with wire, using a clip, using double interlaced longitudinals, so as to embrace the trans-

verse members in the twisting of the longitudinals as in the weaving of wire mesh, and wire cloth, and that sort of thing, or by welding or riveting, or by *integral prongs* or *tongues punched out* of a metal member, a longitudinal, or by cutting *diagonal* cuts into the longitudinal in some places, or by cutting *right angle* cuts into the diagonal and longitudinal and so forth." (131).

The "kerf" in the edge of the spacing member, *and* the "overlapping spur" specifically was old (235).

Various publications showing numerous types of affixation by the metal worker of the longitudinal to the transverse member are shown in Appendix "C," (*infra*, p. 57) if further consideration of the prior art in this respect is called for.

The engineer or metal worker, in case of any particular structure, adopted such well-known method of affixation as appealed to him as most desirable from the standpoint of results to be accomplished, economy of manufacture, desirability for transportation or other handling, etc. etc.

After his witness had made the admission above as to the wide variety of methods of affixation available, appellant's counsel conceded that they were all old (174, 175).

Appellant's witness Thayer testified that, except as excluded by the rights of prior patentees, anyone desiring to use a structure involving longitudinal and transverse members connected, could, as to method of affixation "pick out the one that was most suitable" (132). "The question of expense, convenience and function to be attained in each case control an engineer free to make a choice in the adoption of a particular choice" (133, 134). "Hyatt (referring to Fig. 4, shown on page 340 of the record, of a concrete reinforcing design show-

ing a continuous coil 'preferably riveted' to a spacing bar) meant (by the description 'the tie c may be riveted, or *otherwise* attached to the metal skeleton') that *he* thought that a riveting attachment was the best way but that he *left it open* to attach the spiral to the tie in such manner as the *particular constructor* preferred to select from the *means available in the arts*'' (138, 134, 135).

It hardly seems necessary to go further to reach the conclusion that it was not invention but merely mechanical skill, to use the ''kerf and over-lapping spur'' of the prior art in the *continuous* encircling spiral reinforcement of the prior art, as a ''preferred'' (by the particular constructor) means of affixing the spiral to the spacer, in view of the decision of this Court in

Berger Manufacturing Co. vs. Trussed Concrete Steel Co., 257 F. 751.

The record in that case disclosed that:

> Metal lath was old and well known. Steel beams consisting of a flat sheet of steel rolled into the shape of a ''U'' (channels) had been long known. Tongues punched out of sheet metal for the purpose of fastening transverse metallic members, as in the fencepost patents above referred to, were also old. But no one, prior to Caldwell, had conceived the idea of punching these tongues out of steel channels so as to attach perforated metal lathing thereto by bending the tongues over the strands of the lathing so as to fixedly and rigidly form the metal studs and the lathing into rigidly co-operating members. Caldwell conceived this combination and patented it as a combination. There was no question but that the construction of the defendant was exactly the same as that of Caldwell. Previous to Caldwell metal lath had been used with this metallic studding by the cumbersome and slow method of wiring it to the studding. This loose method of connection did not make the different members integrally cooperate. The method of Caldwell was unquestionably better.

Upon these facts, this Court said:

> "It must be conceded that the complete combination specified in the claim is *not practically* anticipated, that it possessed commercial utility, that it has gone into considerable use, and—more important than all—that metallic studs or supports and metal lath had been used in combination for a number of years and fastened together in different ways *without adoption by any one* of the *specific* methods of *fastening* here disclosed."

Nevertheless, it was *held* there was no more invention than in any substitution of familiar equivalents as of a screw for a nail.

Considering the state of the art as now disclosed, to sustain a patent such as that of appellant would subvert the very purpose of the patent law, by preventing instead of encouraging the development of the arts, by tying the hands of those who would naturally progress, in favor of one who did no more than to conceive as patentable what others assumed to be usable as a matter of course and therefore did not seek to patent.

Often as it has been quoted with approval, it may not be amiss to again quote from

Atlantic Works vs. Brady, 107 U. S. 192, 205, 2 Sup. Ct. 225.

> "The process of development in manufactures creates a constant demand for new appliances, which the skill of ordinary head-workmen and engineers is generally adequate to devise, and which, indeed are the natural and proper outgrowth of such development. Each step forward prepares the way for the next, and each is usually taken by spontaneous trials and attempts in a hundred different places. To grant to a single party a monopoly of every slight advance made, except where the exercise of invention, somewhat above the ordinary mechanical or engineering skill, is distinctly shown, is unjust in principle and injurious in its consequences.

"The design of the patent laws is to reward those who make some substantial discovery or invention, which adds to our knowledge and makes a step in advance in the useful arts. Such inventors are worthy of all favor. It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to real advancement of the arts."

If authorities on the question of non-invention in the use of mechanical skill in adopting from one construction to another elements deemed expedient by one constructor or another, are needed, a list, calling attention to the nature of the adaptation, will be found in Appendix "D" (*infra*, p. 63).

THE APPLICATION FOR A REISSUE CONSTITUTED A CONCESSION BY APPELLANT THAT HIS ORIGINAL PATENT DID NOT COVER THE INVENTION NOW CLAIMED: AND A BROADENING OF THE CLAIMS WAS INVALID, EVEN THOUGH OTHERWISE JUSTIFIED, IN VIEW OF THE INTERVENING RIGHTS OF DEFENDANT AND OTHERS.

That the new claims upon reissue were invalid has been held or assumed by every court that has considered this patent. A reference to those opinions is sufficient on this question.

Even if the new claims upon reissue had been justified by the character of the original invention, nevertheless they were invalid in view of intervening rights. The law as to intervening rights as against reissue patents is too well settled to require citation of authority.

THE REISSUE WAS INVALID BECAUSE THERE EXISTED NO JURISDICTIONAL FACTS JUSTIFYING THE REISSUE. THE ORIGINAL PATENT WAS SURRENDERED UPON REISSUE. ACCORDINGLY, APPELLANT HAS NO PATENT AT ALL.

We expect the court to dispose of the case otherwise, so that it may not find necessary consideration of the argument under this title. But, believing the point well taken, we submit it, like the further question of non-infringement, out of abundance of caution.

The law authorizes a reissue only upon one or the other or both of two grounds. The original patent must have been invalid because the inventor claimed *more* than he was entitled to claim; or the inventor must have

inadventently erred in his specification and claims. Unless one or the other of these grounds exists, there is no jurisdiction or authority to grant a reissue, and an attempted reissue is a nullity as such. Neither ground for reissue existed in this case. No claims were narrowed. The new claims were broader claims, and invalid as such. There was no error in the specification. There was no change in the specification except to correct the typographical error in the printing of the word "end" instead of "edge" in claim 3. This misprint in the instance of the original patent did not affect its validity. Both courts of appeal have so held (258 F. 143, first sentence of second paragraph; 263 F. 96, second sentence of first paragraph, and middle of second paragraph on page 97). Appellant makes the same claim in his brief (Br. 39).

The statute expressly requires, as a condition for obtaining a reissue, and without limitation as to whether the reissue is valid or not, that the original patent shall be surrendered.

One seeking a reissue is required, as a condition of attempting to secure something better, to give up what he has. If he fails to secure something better he is in the situation of the fabled dog at the brook who dropped his substance in an effort to secure a shadow.

An inventor who secures a reissue to be granted him without jurisdiction, lacking any condition authorizing a reissue, has no patent at all.

There are moral and equitable, as well as technical reasons for this result.

The contention is, we believe, fully supported by the argument and authorities set forth in Appendix "E," (*Infra*, p. 69).

UNDER ANY CONSTRUCTION OF THE PATENT AND CLAIMS WHICH WOULD SUPPORT THEIR VALIDITY, THERE IS NO INFRINGEMENT.

All of the courts have held the appellant's patent to be a paper patent entitled to consideration only as such, and, at the best, involving, if invention at all, but a narrow advancement in the art, limited to the use of the specific device of the "kerf *and* overlapping spur" for connection of the members.

Judge Orr held that "if, by any possibility, the patent can be held valid, it is most limited in its scope. If valid, and thus limited, there has been no infringement" (259 F. 581). The Court of Appeals sustained this contention as the easiest way of disposing of the controversy (263 F. 97). We will discuss the basis of this decision more in detail later. Circuit Judge Hough found that "the only invention revealed by the specifications is the *exact* construction described in Figs. 1-6" and that there was no infringement. However, Judge Hough's conclusion as to no infringement was based on the idea that the construction described as a "concrete steel spiral" on page 211 of the record was not "rigidly" retained, but was collapsible. The Court of Appeals in the Second Circuit held that collapsibility was merely a commercial improvement including the elements of the original structure of appellant, as that structure was assumed in the court to be in the course of the limited presentation of defences apparent from opinion. Were it necessary, we might argue against the conclusion of the Court of Appeals of the Second Circuit on the theory that to open up the, by it, concededly rigid attachment of appellant so as to make the structure collapsible, was not an *addition* of a new ele-

ment, by way of improvement upon appellant's device, but a creation of something entirely different in that it *eliminated* the element of rigidity and employed the entirely *different* element of collapsibility.

The cursory manner in which, other than as to the question of collapsibility, the merits of appellant's patent were presented to the Circuit Court of Appeals is disclosed in the statement in the opinion: "The defendant's witness Cummings *frankly admits* that this form of reinforcing structure was new in cement work and has come into general use." This in an outright misunderstanding of the record. We are told in appellants brief here that the record in the New York case was made up from excerpts from the record at Pittsburgh. We have before us the Pittsburgh record and are unable to find therein a syllable justifying this statement by the Court of Appeals of the Second Circuit. It was intended to use the witness Cummings at the trial in the court below. He failed to arrive on time. It was agreed that his evidence from the Pittsburgh record should be considered. To save appellant extra expense, and considering Cumming's testimony as not necessary to our defence, it was stipulated out of the present record, with the agreement that it might be referred to, if desired "as a physical exhibit" (484). We challenge opposing counsel to quote therefrom in support of the statement of the Court of Appeals that Mr. Cummings made the admission stated in the opinion of that court.

Judge Westenhaver correctly thought that he might have disposed of the instant case on the ground of non-infringement "were I to adopt the limited and narrow construction given to the claim by the Third Circuit Court of Appeals" (470), but preferred to dispose of the case upon the broader grounds.

As a precaution, we decline to waive the question of infringement. The "over-lapping spur" is as much an element of claim 3 as the "kerf." The claim was procured by including *both* these elements. The Patent Examiner might have allowed the claims because, although he knew kerfs, he was not familiar with kerfs "*having* an integral overlapping spur." A kerf is any sort of a cut. Appellee has a kerf in its "T" bar. But, as noted by Judge Westenhaver, "the kerfs of plaintiff's patent required to be cut at an *inclined angle.*" The use of the term "kerf" in the claims must be understood with reference to the kerfs disclosed in the description; and these were inclined kerfs. Appellee's kerfs are not inclined. A "spur" is a form having a distinct meaning, something projecting out beyond the main body, as the original spur of the equestrian, the spur of the rooster, the spur track of the railroad. Appellant created such a spur. Appellee did not. Holding adjoining metals in place by hammering down is a totally different thing. It had been used for ages by mechanics deeming this method of retention desirable. Appellant's spur completely "overlapped" and extended only from *one side.* Appellee's construction involves hammering or peening on *both* sides, and neither side *over-laps* the spiral. It is a wedging effect and not an over-lapping effect. Details of appellee's construction appear at page 217 of the record. Appellee's spacing bar is not a rectangular bar at all, and it does not have its kerfs in the "edge" of the primary bar. It is a "T" bar. The flat top of the "T" is the *primary* spacer. The leg of the "T" is provided as an *auxiliary* in order that *cuts* may be made therein without *weakening* the *primary* member. The attachments proceed from the back of the primary member, not upon the edge. They are the same in this aspect as if there were protruding from the back of the spacer, at the necessary in-

tervals, *disconnected sections* for attaching purposes. Those parts of the continuous leg of the "T" between the points of attachment are simply waste material, wasted because it is cheaper to construct the spacer in that form than to save the metal by having *independent* protrusions *at intervals.* The attachment is just as much upon the "back portion" of the spacer as in case of the device held by Judge Buffington not to infringe.

The structure held by Judge Buffington not to infringe is shown in Fig. 6 on page 279 of the record. If there is anything in the "edge" distinction, the edge cuts of Fig. 5 on page 279 of the record had been disclosed by Banks 13 years before appellant's application (363) specifically as a means for attachment of concrete-encircling bands to the spacers for holding them respectively in place.

All manufacturers of column hooping use at least *two* spacers, located opposite each other. One would be ineffective for the purpose of holding the encircling bands or continuous spiral at the equal spacing necessary to utility during the process of pouring the concrete. If there were a spacer only on one side, the bands or loops would be free to bunch together or separate on the other side of the column under the influence of the process of tamping the concrete. There is a totally distinct *function.* That plaintiff had no conception of a structure thus effective for the hooping of columns is apparent. Except in his detail Fig. 6, showing two beam bars, *each* with its own independent set of diagonals, opposed in the familiar method of the use of beam reinforcing for column construction, he shows in every instance a *single* bar, wastefully heavy in its proportions in relation to the diagonals for mere spacing purposes, and, even in Fig. 6, without a bar on opposing sides of the loops. His disclosure does not suggest the use of opposing spacers. In

claims 1 and 2 of each the original and the reissue patents it is stated that the coils are "*free* of said bar at the opposite side therefrom to the securing point." When the Examiner cited the Swiss patent to Münch (410) against his application, appellant distinguished his structure on the ground that he only had one bar and not two, so that one end of his diagonal coils was "free" of the bar. Says appellant to the Examiner: "The reference device shows a different form of brace where the wire simply extends *between two* bars" and "does not have the *free* coils disposed *beyond* the bar" (437-8). "The Swiss patent which is relied upon by the Examiner shows windings carried by *parallel* rods and *not* secured to *either* of the rods * * * and *even* if *one* of the rods be *removed* would not anticipate the appellant's invention because the *remaining rod* not being attached to the coil could not retain it in operative position" (441).

As to the distinction between the use of two opposite bars for *spacing* purposes and the use of one longitudinal for *reinforcing*, with the coils attached to bars on *both* sides for columnar encircling reinforcing, and the coils "free" of the bar for beam reinforcing, we think the proposition of non-infringement absolutely clear. We appreciate that the contention of non-infringement upon the distinction in respect to the method of attachment (assuming the disclosure of appellant to be a spiral continuous in one direction, otherwise adapted for use as hooping for columns) is based upon narrow distinctions. If Judge Buffington had regarded appellant as any sort of a pioneer in the art, he would never have held non-infringement on account of a difference merely in method of attachment. His decision was simply the easiest method of disposition of an extremely questionable patent, which had made "no impression on the art," saving the

court the trouble of trying to find out what was involved in the other contentions the attorneys were attempting to present.

We merely add the question of non-infringement. We feel that this Court, like the court below, now that the merits and demerits of this patent have been fully presented, should broadly dispose of the patent as wholly invalid, protecting other manufacturers and other courts from the annoyance of considering this paper patent, and incidentally saving the appellant from the expense of preparing fourth and succeeding records and briefs on appeal.

Respectfully submitted,

W. F. GUTHRIE,
Youngstown, Ohio.,
E. N. PAGELSEN,
Detroit, Mich.,
Attorneys for Appellee.

APPENDIX "A."

UNITED STATES DISTRICT COURT,

SOUTHERN DISTRICT OF NEW YORK.

George E. Vandenburgh,
vs.
Concrete Steel Company.

Final hearing in Equity. Action on Claims 1, 2, 3 and 5 of Re-issued patent to Plaintiff, No. 14182. Original patent was No. 841741, of which the application was filed May 9, 1906, patent issued January 22, 1907, surrendered and re-issue prayed July 1, 1916, re-issue granted August 15, 1916.

J. H. Griffin, for plaintiff;

L. E. Varney, for defendant.

MEMORANDUM DECISION.

A formal statement of the alleged infringement clarifies this situation. Defendant makes and sells a "collapsible spiral" (Deft's Ex. 5, p. 6) used for strengthening concrete construction, consisting of a cylindrical helix of steel wire fitted (usually) to two "Spacers" a diameter apart, and each engaging every convolution of the helix, of which the rise is so slight and the engagement with the "spacers" so loose that the construction which is normally stove-pipe shape, can by moving the metal rods called "spacers" longitudinally in opposite directions be flattened out and then conveniently crated for transport.

These "spacers" are *not re-enforcing bars* in the sense that they are a calculated addition to the ultimate strength of the steel and concrete structure; their function is only to hold the spiral in place until the concrete

is poured,—but, of course, they are of metal and do contribute whatever strength they possess—so would any other casual piece of steel.

To this apparatus there are *two essentials*, one that the helical convolutions be close, and second that the wire be so fastened to the "spacers" that it can turn in place; unless both of these conditions are fulfilled it cannot *collapse*.

That this is not the exact thing Vandenburgh invented is too plain for argument; the assertion is that a wire spiral fastened to one piece of metal, such as defendant's "spacer," in the manner commercially used by defendant, and intended as an aid to concrete building, embodies the claims in suit; the *addition* of another spacer is *immaterial and collapsibility* is a function or attribute of what the claims define.

Whether the claims of the re-issue do read on defendant's structure, is not a matter requiring much consideration. If such be the case, it does not prove but only suggests infringement.

Nor, on the other hand, shall I spend time in dwelling on the "*paper*" nature of this patent. The style of strengthener for concrete now called infringing has been in growing use since 1907, but there is no proof at all that plaintiff has contributed to that growth, unless one is to believe that the mechanic world was moved by Fig. 4, the only portion of the disclosure suggesting even now defendant's device. On this evidence it is clear that McClure 857821, which issued a few months after the patent in suit, should have had a vastly greater influence, because its suggestions are so much more distinct.

It is preferred to ask what is always an important and often the vital question,—what did Vandenburgh disclose?

His specification has remained substantially the same, since date of application; there were no changes of substance in the office and the reissue was sought only to procure a change of claims. The invention has always been described as a "*reinforcing bar,*" which is to be "embedded in the plastic body to be supported thereby." Bars were old, therefore novelty in construction must be shown and it is disclosed that this bar is to be provided with "*one or more* spirally disposed coils *secured* to the bar," and forming a *truss* within the body of concrete. This securing of coils to bar may be "in any desired manner," but the preferred and disclosed means to a "series of kerfs in one face of the bar *inclined away* from the *center of the bar* towards the *opposite ends* thereof; in one of which kerfs each convolution of the wire coil was inserted and the spur or lip of each kerf "*forced downward* upon the coils"; thus the hammered down kerf-spurs "*permanently retain*" the wires "*in position.*" There was nothing new about this method of retention (Clark 589593), while as for the mere act of fastening by any means a rigid metal bar longitudinally along a cylindrical helix of wire, I have only to look at the spring holder for pens and pencils now before me and in the same use on my desk for twenty years last past.

Evidently, therefore, the patent could not generically cover a style of construction of which the elements are a coil of wire combined with any sort of metal rod secured to each other in any way as often as the periphery of the spiral touched the longitudinally placed rod. Unless the *disclosure* does first reveal this fundamental novel thought, it may be doubted what defendant does within any justifiable range or equivalency; but decision is grounded on narrower considerations.

I have quoted substantially all the verbal description of invention, and as soon as the drawings are examined it is seen just what Vandenburgh meant by a "truss," and exactly how he made one, and why he wanted it strong, fixed and rigid. Fig. 1 and its detail Fig. 3, with interlacing coils pointed away from the middle point of the ultimate completed construction, is a true truss frame, firm and rigid (except for probable resiliency or elasticity or wire) before any concrete poured. Fig. 4 shows a single wire, a cheaper and weaker device, but identical in theory. This is Vandenburgh's invention; he never disclosed collapsibility; what he shows will not collapse; what he does show bears scarcely a remote resemblance to what defendant makes and sells.

It is urged, however, that whether Vandenburgh saw the possibilities of a mere spiral guide for concrete or not, he disclosed the fact. If so, it must be by Fig. 4 alone. But, as said above, this is called "a modified form using one coil"; using one coil for what? Of course, for the same purposes and in the same manner as he preferred to use a double coil; i. e., so as to be rigid, truss-like and non-collapsible.

Turning to the re-issue, it is found that claims 1 and 2 originally called for a spiral coil "rigidly" secured to the reinforcing bar; as re-issued the phrase is "permanently" secured. The evidence makes it plain that this change was made to catch manufacturers like defendant, but I shall not consider intervening rights, because it is thought clear that rigidly is exactly what the patentee meant. This is seen from the nature of his "truss" and the representations made in argument to the examiner. (Original file wrapper, Amendments A and B).

Claims 5 (original 4) and 3 are in too general language. They go beyond the disclosure, exceed the in-

vention and are false claims unless construed to mean by "*retained*" rigidly fixed in place, and (5) by "kerfs disclosed diagonally," kerfs inclined half one way and half the other—substantially as shown.

In result, it is held that the re-issue was unlawful as to claims 1 and 2 if "permanently secured" differs in meaning from "rigidly secured" because the specification meant "rigidly secured," whether this invalidates the re-issue need not be discussed. Further held that Claims 3 and 5 are not infringed by defendant, and finally held that the only invention revealed by the specification is the exact construction described and pictured in Figs. 1 and 6.

Bill dismissed with costs.

May 13, 1918.

APPENDIX "B."

Appellant did not Invent "Column Hooping" at all and Had no Idea That He Had Made Such Invention Until After Column Hooping Came Into General Use. Practical Men, Expert Witnesses on Both Sides Below and the Patent Office Saw Nothing in Appellant's Patent Suggesting Column Hooping.

"Column hooping" is a well recognized name descriptive of a continuous spiral or independent bands, held by spacer bars intended to serve no function except to hold the spirals or bands in place until the concrete is poured, leaving the spiral or bands located around the column as near its outside perimeter as consistent with fire-proofing and the binding enclosure of the spiral or hoops within the concrete, for the *purpose* of resistence to the tendency of superimposed weight to cause the concrete to *spread laterally* and break or spawl.

The term "bar" or "reinforcing *bar*" of the patent in suit is also well recognized as descriptive of steel used in the reinforcement of concrete for a *totally different purpose* hereinafter specified.

Any beam supported at its opposing ends and subjected to an undue weight fractures either by the stretching, against tension, of the lower part, or crushing or crumbling or buckling, under compression, of the upper part. In a beam of a homogeneous material, such as structural steel or wood, the failure is in the bottom in tension or at the top in compression, according to the material. The tensional strength of an ordinary structural beam is such that it will buckle in at the top. A wood beam will stretch and break at the bottom. In a reinforced concrete beam, resistance to these respective stresses is furnished by the two different materials.

The steel at the bottom resists the tension. The concrete at the top, negligible in tension, resists the compression. This was the original reinforced concrete beam. It could, of course, like a beam of any material, be used as a column by standing it on end. But, in case of a beam on end, the resistance is solely to the compression of the superimposed load, except, that if the load is superimposed *eccentrically,* it will tend to bend the beam, and so develop opposing stresses of extension and compression. Originally, reinforced concrete beams were used as columns, except that, because the eccentric loading might develop bending in any direction, "reinforcing *bars*" were placed *opposite* each other, near the outside of the column, to furnish tensional resistance according to the location of the load. Of course, these reinforcing bars afforded some, but not much, resistance to compression, depending upon the quantity in sectional area of the steel used.

In the practical use of concrete beams, as beams, it was soon discovered that there was a still further stress to be resisted. In the breaking of a reinforced concrete beam under load, there is a tendency to diagonal fracture of the concrete, not developed at all in the center of the beam, but increasing toward the respective ends of the beam, as illustrated on page 423 of the record. To provide a "reinforcing bar" which would not only furnish tensional resistance longitudinally, but strengthen concrete beams against this *diagonal* fracture, the president of the appellee company, the witness Kahn, invented the idea covered by his patent of 1903 (248) in which diagonals running obliquely from the "reinforcing bar" *oppositely* toward the respective ends of the beam were provided either by diagonals bolted on as in Fig. 10, or integrally punched from the bar, as in Fig. 4, or sheared

from the edges of the bar, as in Fig. 8, or looped into the bar as in Fig. 24, *et seq.* Kahn contemplated the use of this *bar* in columns, as simple straight reinforcing bars had been used in columns, by placing a bar on each side or corner of a beam used as a column (253).

Other inventors followed with other ideas in respect to incidental opposing *diagonals* attached to the main "reinforcing bar." Pohlman, like the appellant, thought that a *looped* diagonal member would serve the purpose better than a single *straight* member (262). Pohlman had *his* specific idea of providing the loops. Peabody (265) thought it would be still better to have *double* loops for his diagonals, and that it was desirable to attach them as indicated. Golding (268) thought it better to use a loop the *bend* of which would be *longitudinal* of the bar instead of transverse to the bar, and disclosed a method of attaching such a loop to his main "reinforcing bar."

All of these patents on *opposed diagonals* were issued before appellant's application.

Our contention is that appellant's only conception was of still *another,* and, by him believed-to-be-more-desirable, method of providing the diagonal and *oppositely extending* loops as *auxiliary* to a *main longitudinal* "reinforcing *bar.*"

Kahn's patent was issued in 1903 (250). Appellant does not claim to have even commenced with his conception until that year (96). He had used Kahn's bars with the prongs for beam construction (93). The abbreviated record does not disclose the date. Kahn's bar consisted of a "*main* metallic strengthening member, with a plurality of *auxiliary* members" (line 76, p. 253). As explained by Kahn in his patent (252), the idea of the opposing diagonals is to develop a *truss* action; "and has

for the primary object the obtaining of a trussed construction in which a portion of the trussed members are formed by metal and the remaining portion by concrete or cement * * * the *main* members (the primary reinforcing bar) correspond to the chords of a *truss,* and the *minor* members (the diagonals) to the web. * * * the metal is arranged to correspond to the tension members in the *ordinary Pratt* truss" (lines 12, 68 and 75 *et seq.).* "The diagonal members only of a part of a *truss"* (claims 1 and 4). The original name of the appellee company was "*Trussed* Concrete Steel Company."

Appellant's *original* idea was of a *better* "reinforcing bar" or "bar," a she calls his structure throughout the patent, for the purpose of resisting *tension* and *diagonal* stresses in his *beam.* In the language of claim 3, the only possible valid claim in issue: "A reinforcing *bar* * * * *with* etc." The "bar" is *the* thing. His only idea of using it in a column was the idea of his predecessors of making a beam serve as a column by standing it on end, but, in such use of the beam, to employ a *plurality* of *opposed* "bars." The only reference in the patent to columns is as follows:

> "In Fig. 6 a modified application of the invention is shown where *two* of the bars are disposed parallel to each other, with their coils intermeshing, for use in a column or *girder* construction."

Column hooping, as manufactured by defendant, could not be used practically in a "girder" at all. As appellant's structure was to be used in *either* beam or girder, it could not be column hooping. It must be *primarily* a "bar" for beam.

Appellant was going to have a better "bar" than Kahn by employing, like Pohlman, Peabody and Golding, *loops* instead of straight *diagonals,* on the theory that

the loop of the "*oppositely* extending" diagonals would get a better, and enclosing, grip on the concrete. That appellant did not have the conception of a spiral *continuous* throughout the length of his complete reinforced structure is clear from the fact that he, like Kahn, proposed "to form a *truss* within the body of the concrete" (line 19, p. 213); "and provides the necessary strength upon which the *truss* structure formed by the *coils* is carried" (line 99, p. 213). This "truss" action could not be developed by a spiral *continuous* in one direction. To develop the truss action, it is necessary that the auxiliary members *incline* in *opposite* directions from the center. And that there might be no doubt about this, appellant says:

> "This preferred construction (the "preferred" in this connection referring to the preference in the use of two coils, instead of one) is shown in Figs. 1 and 3, and it is also desirable that *both* (that is, each of the two sets used in the preferred construction) of the coils be deflected away *from* the *center* of the bar, as shown in Fig. 1" (line 69, p. 213).
>
> "These coils being extended in *opposite directions* and embedded in the material, provide" etc. (line 11, p. 213).

Even the kerfs, inclined because the coils are inclined, are "inclined *away from the center* of the bar towards the opposite ends" (line 8, p. 213).

In the Patent Office, appellant distinguishes his structure from that of the Swiss patent to Mollins (403) showing encircling coils pointing out to the Examiner "that the Swiss patent does *not* show the wire deflected toward the *opposite* ends of the bar" while in appellant's structure "the spiral strands when embedded in the concrete form a structure extending continuously *from* the center *toward* the *opposite* ends of the bar" (442).

The contention that appellant did not, at any time, contemplate a coil *continuous* in a single direction, but only *either* one or two coils, the direction of which should be *reversed in the center,* so as to create the oppositely extending *diagonals,* was never presented to any of the courts until in the court below. But Circuit Judge Hough notices this element of the patent as a premise to the conclusion that appellant's affixation was "rigid" (*supra,* p. 39), because this *truss* action could *only* be secured by *oppositely inclined* loops rigidly seated in oppositely inclined kerfs so as to *retain* the wires in these oppositely inclined positions.

The court below did not definitely determine this question, because it considered that the decision must be against the appellant even "*assuming,* without *admitting,* plaintiff's contention (that he disclosed a *continuous* spiral) to be true."

The various opinions written on the patent in suit disclose that no denial was made by any defendant, prior to the trial in the court below, of appellant's contention that Fig. 4 of his patent showed a coil continuous in one direction, so that the only questions elsewhere raised pertained to whether there was patentable invention in inserting such a continuous coil in a bar by means of the kerf and overlapping spur and whether such insertion was originally contemplated by appellant to be a rigid insertion instead of the collapsible connection of the respective defendants. But we confidently assert that Fig. 4 does not disclose a spiral continuous in one direction. Figs. 3 and 4 are only details of *one half* of the *complete* "reinforcing bar." Fig. 3 is intended to illustrate in detail how two loops, *each* extending *diagonally from the center* toward *that* end of the bar, may be employed

to increase the grip upon the concrete, although a single coil may be "sufficient in light construction." Where two coils are used, they are wound, on the respective halves of the bar, away from the center so that "coil 7 * * * extends in the opposite direction to coil 6 and through the same so as to cross beneath coil 6 at a point directly above the bar, thus providing a construction in which all lateral pull or strain of the coil is avoided, owing to the equalization thereof by the oppositely-extending (that is, oppositely extending as between the two cooperating) coils, and the tendency of the coils to move or flatten toward the face of the bar resisted." It is expressly stated that "this preferred construction is shown in Figs. 1 *and* 3" thereby expressly showing that "1 *and* 3" disclose the *same* idea, so that Fig. 3 is but an elaborated detail *of part* of Fig. 1. In respect to this reference to Fig. 3 as a detail of Fig. 1, it is immediately thereafter stated "and it is also desirable that *both* of the coils be deflected *away from* the center of the bar *as shown in Fig. 1.*" "Fig. 3 is a *detail* perspective of the primary and secondary coils *shown in* Fig. 1." So there can be no question but that Fig. 3 is not intended to illustrate double coils each continuous in one direction throughout the length of the bar. Then, *immediately following* the last quotation, it is further stated: "Fig. 4 is a *similar* view of a *modified* form using *one* coil." Therefore Fig. 4 is a detail of one-half or one part of Fig. 1, (just as Fig. 3 is expressly stated to be) except that it uses one coil instead of two. The element of "truss action" could be attained only by having the single coil of Fig. 4 *change its direction* in the *other* half of the bar on the other side of the center.

Neither of the courts of appeal appear, from the opinions, to have had called to their attention for consideration the question of whether appellant had ever disclosed for any purpose such a structure as a *continuous* spiral attached to a spacing bar.

Circuit Judge Hough considered this upon the question of rigidity or collapsibility, finding that Fig. 4 did not disclose collapsibility because it only showed a *modified* use of the coil in a *truss* construction, which necessarily would not be collapsible. He said:

> "It is urged, however, that whether Vandenburgh *saw* the possibilities of a *mere spiral* guide for concrete or not, he disclosed the fact. If so, it must be by Fig. 4 alone. But, as said above, this is called *'a modified form using one coil';* using one coil *for what? Of course,* for the *same purpose* and in the *same manner* as he preferred to use a *double coil;* i. e., so as to be *rigid, truss-like and non collapsible.*"

Judge Orr also found non-collapsibility for the same reason, quoting the reference to "form a truss" and to the "oppositely extending coils" to show that "the structure of the patent is not collapsible. The quotation above indictes it" (259 F. 580).

Judge Westenhaver passed the question, which was directly submitted to him, as immaterial even if the appellant's claim as to Fig. 4 was conceded (469).

Professor Turneaure, Dean of the Engineering School of the University of Wisconsin, author of one of the three leading works on the subject, who, appellant's expert says, "stands very high in the profession" (138), and whose qualifications were admitted by appellant's counsel (49), could not find in the patent in suit anything but a structure pertaining to beam construction either

as a beam direct or as a beam used as a column. He saw no suggestion of columnar construction of the column hooping type:

> "I take figure 4 as a mere detail or piece of figure 1, because in the decription it refers back to figure 1 in mentioning figure 4. Figure 1 shows the entire construction and figure 4 a mere detail, assuming a single coil. Figure 3 shows how the thing can be made using a double coil. In figure 6 all of these coils are inclined in the same manner as they are in the diagram in figure 1. It does not appear that they suggest at all the fundamental notion of spiral and hoop reinforcement as the *primary* reinforcement. Furthermore, figure 6 illustrates what has been done with other kinds of *beam* reinforcement when *used in* columns. When put in there, it would give the idea these diagonals do some good, but it is not a very scientific arrangement.
>
> "Figure 6 is impracticable because the coil is bunched together like that, and it does not occur to me you would get a very good job of concrete, and it does not appear to me you actually could with the coils so closely meshed together as indicated in that figure. The coils would interfere with the tamping of the concrete. You could not get a good quality of concrete." (63.)

Profesor Turneaure's analysis of this patent and his explanation of the principle of truss action are found fully on pages 61 to 64 inclusive. His explanation of beams and beam stresses, and the purpose of adding the diagonals of Kahn to the original plain reinforcing bar; his references to the development of patents on diagonal attachments to reinforcing bars; his distinction as between column stresses and the purpose of column hooping, as distinguished from up-ended beam construction, and the distinction that in "reinforcing *bars*" the *longitudinal* "*bar*" is the *primary* functional member, the

diagonals, rods or loops, being *auxilliary,* while in "column hoping" the coil is *primary* and the longitudinal spacer merely *incidental* to correct placement *during construction;* all appear on pages 49-60, inclusive of the record. It is all well worth reading *in extenso.*

Appellant placed on the stand a witness named Thayer, a teacher in the Carnegie Institute, who had not contributed substantially to literature directly on this subject. The principal purpose of his examination in chief was to testify that he had examined the Pittsburgh record before the Court of Appeals of the Third Circuit and found the prior documentary art *substantially* the same as in the *abbreviated* record in the Second Circuit. Opportunity was afforded for extended cross-examination by appellee. At the outset, it disclosed that his comparison was cursory (125-127).

This witness admitted that he was a partisan (132). He disliked embarassing details. He preferred to generalize. He endeavored to dodge and evade efforts to pin him down. Nevertheless, when cornered, or when speaking without appreciating the effect of his statements, he *verified practically everything testified to by appellee's expert* or argued under this particular heading of the brief.

After admitting that Fig. 2 of the patent in suit was merely a "detail," and then that Fig. 3 was *also* a "detail" showing the arrangement of *one-half* of a bar using double coils, "reversing in the middle" (161-162), he was asked if Fig. 4 was not *also* a detail. Beginning to grasp the force of this examination, he attempted to hedge (162), but finally acknowledged that Fig. 4 was also a mere detail (163), and finally admitted, in effect, that Fig. 4 *could not* represent "a single *continuous* coil running in the *same direction* of spiral on *both* sides of

the *center*'' (166) as an element of the beam construction which was the principal idea of the Vandenburgh patent, or at least, that if it did, it would not work, because the witness could not ''agree with him (appellant) as to his idea of the action of the beam or column under stress.'' The *continuous* coil of *column hooping* could not be used in *beams at all.* ''That action is a different matter entirely. The theory of *beam* action and the theory of *hoop columns* is *entirely different.* If you were going to reinforce it to carry as a beam, you would reinforce it *one* way. If you were going to reinforce it as a hooping, you would reinforce it *another*'' (166).

This testimony puts the patent in suit upon the horns of this dilemma as to Fig. 4:

Whatever he had in mind, appellant was going to use the *same* structure, preferred or modified, for *each* columns and beams. If Fig. 4 represented a continuous bar in its *entirety,* it wouldn't work in beams at all. It could only work in beams as representing, not a continuous coil, but *one-half* of a beam with the coils inclined in one direction on one side of the center and inclined in the other direction upon the other side of the center. And this would not be the continuous spiral necessary in column hooping.

As to the differences in stresses and the requirements of reinforcement in columns and beams, except as a beam might be used as a column Thayer agrees with Turneaure (138). He says the purposes of the diagonals are as we have set them forth *supra* under this title of the argument (141)—the diagonals must, to be *effective,* extend ''oppositely from the center'' (142) so as to thereby develop the truss action (164).

Column hooping of the practical art is for columns exclusively. It has no advantages for beam construction. It would be inutile therefor, although, contra, a beam may be used as a column, while not so advantageously as a member properly constructed primarily as a column. "Bars" are used in beams to meet the stress of tension *lengthwise* of the bar. Hooping is used in columns to resist expansion *directly against* the coil. Appellant either invented column hooping, as such, or beam construction which might be, but not so satisfactorily used for columnar support. He couldn't have covered *both* of these *diverse* propositions with *one* structure. Can there be any question that it was the beam he was after?

Appellant's witness Thayer discloses the best of reasons why Vandenburgh made "no impress on the art." He was impractical. Thayer agrees with Turneaure that appellant's Fig. 6, his special suggestion for columnar construction "would not be practicable" (147, 159).

Thayer says appellant's theory of equalizing the strains was erroneous (165, 166). There wouldn't be any tendency to draw coils up at right angles (167). His kerf attachment for beam construction was *objectionable* in that it weakened the tension member and wasted steel (141), the very thing which Golding sought subsequently to avoid (181). His Fig. 4 *would not* do for *column hooping* because it only showed the *single* longitudinal member required in *beam* reinforcement and not the *opposite* spacers required to hold the coils of column hooping in proper alignment until after the concrete was poured. Appellant could not add a *second* bar to his coil and keep within the disclosure of his patent. He claims "coils *extending beyond* and *free* of the bar *at the oppo-*

site side therefrom to the *securing* point" (210). This Fig. 4 would not do for column hooping because the loops, even if continuous, were *spaced much too far apart* for any *effect* in *columns,* however effective in *beams* (140, 159).

Appellant continually refers to his device as a "bar" or a "reinforcing bar." The *longitudinal* member is of *many times the sectional area* of the material of the loops. This is the proper relative proportion of metal if the longitudinal bar is to serve to resist tensional strains, as the *principal* element, and the diagonals only to protect against oblique fracture, transmit the stresses from the body of the concrete to the main bar, and develop the truss action, as *minor auxilliary* elements. But this is a ridiculous proportioning if the structure is intended for column hooping. In column hooping, the spirals are the *principal* members, resisting the transverse expansion of the column, and the longitudinal bars are *mere spacers,* for the purpose of holding the main spiral in proper alignment of convolutions during the pouring of the concrete. The spacers, for economy's sake, are as small as will suffice to hold the spirals in place until the concrete is poured. Thayer says that in column hooping these *small spacers* would not give "any substantial, calculable results in a column." "It would not amount to very much. It would be small. It would not be worth figuring * * * It might really be a detriment. They would serve no substantial function except as a spacer for the spirals" (139). His testimony was directed to the relative sectional area of spacers as used in the practical art of column hooping (89). See cuts of various column hooping construction (211), appellee's construction being Exhibit No. 2. Exhibit No. 1 is a model prepared by appellant. The functional purpose of the

longitudinal bar in beam construction and in column hooping construction is entirely different. *No one having column hooping in mind would have illustrated it by any such drawing as Fig. 4, even if Fig. 4 had been a complete bar instead of one-half a bar.*

Thayer admits that appellant followed Kahn as to beam construction (177), as did Pohlman, Peabody and Golding, *supra* (178, 179): that Kahn showed the application of beam construction, as beam construction, to columns (178, 183, 184), and that Kahn's columns were adapted from beam construction upon the same functional basis as appellant's adaptation of his beams to columnar construction (178).

Thayer futrher testifies that the terms "bar" and "reinforcing bar" used in the patent in suit are *not applicable* to the structure known as column hooping.

> "We would call it a *reinforcing bar* where you *figure it* in the stresses. Where it is *not* figured, we call it a *spacing* bar, provided it is used to hold the spirals in position.
>
> Q. And where a coil was the *main* thing and was the part upon which you *depended functionally*, you would call it a coil, would you not?
>
> A. Yes, 'Hooping' is the term I have ordinarily used.
>
> Q. Hooping is a term that has been well known since Considere? (1903.)
>
> A. Yes." (184, 185.)

> "Q. Well, as an engineering term, intended to clearly describe to another who did not know what idea you had in mind, and you must get his idea of what you did have in mind from the language or term used, would you say that a coil with its convolutions seated in recesses in a spacing bar of such light construction that the spacing member would not be taken into consideration in calculating the

strength resulting in the finished structure was properly called a bar?

A. The term 'bar' is *not* ordinarily used in referring to what they call *spirals,* still they use them at the present time up to one half inch in diameter and they call that a bar.

Q. Where the longitudinal is of a size and design to furnish in itself, whether aided or unaided, the *primary* substantial reinforcing strength, you call it a bar?

A. I would think so." (184.)

And, finally, not only were men like Professor Turneaure, and men in the practical business of manufacturing reinforcing for columns, unable to see in appellant's patent anything applicable to the structure functioning under the term column hooping and neither sought nor accepted licenses from him; but the very Examiner who allowed appellant's patent, and who was subsequently called upon to pass upon other patents, the latter pertaining *directly* to column hooping, was unable to see anything in appellant's application but a *beam* construction. When appellant's original application was pending, and the Examiner was called upon to make references against the application, all were (says witness Thayer) to prior patents on *beam* construction (190), and none were on art applying to columns (193), although the same Examiner had passed the Cummings column hooping patent, under which the Electric Welding Company operated, shortly before the filing of the Vandenburgh application (273 to 286 inclusive). Thayer was right. When appellant's original patent was in the Office, the Examiner understood it to be of such structure and for such purpose (436) that he rejected the claims on Münch (405) elsewhere disclosed (*infra,* p. 34) Mueser (Pittsburgh record 377), an ordinary straight reinforcing bar except

that it had high *integral* corrugations encircling the bar continuously in each direction; Peabody (265), a reinforcing bar with loops extending oppositely from the center diagonally across the line of fracturing shear; and Kahn (Pittsburgh record 373), a reinforcing bar to which Kahn attached oppositely extending diagonal members *without reducing* the size of the longitudinal at the point of affixing the diagonal, as did Golding (268).

Following the issuance of the original patent, and during the same year, there was filed the application of McClure (287) showing continuous spirals held in *kerfed* spacers, and later other applications (290 to 310, inclusive) not only showing continuous spirals in *kerfs* but with *over-lapping spurs* pressed down on the spirals (293). The Examiner, although he had personally passed on the Vandenburgh patent, did not see occasion in the consideration of any of these numerous subsequent applications, to refer to appellant's patent (188, 189). The only conceivable reason for the Examiner not referring to appellant's patent in considering these applications is that the Examiner never saw anything in appellant's application to suggest that the idea of column hooping was involved.

Witness Thayer had to admit that these subsequent patents clearly covered the idea of appellant's invention as the witness construed it (185, 186) so that if the witness had been the Examiner, he would have felt compelled to refuse the allowance of the subsequent patents (188, 189).

If this Court has the time, it would be interesting to read the cross-examination of Professor Thayer in full. Parts of it will be referred to elsewhere in discussing the question of invention.

APPENDIX "C."

No Invention Disclosed in View of Prior Art Patents and Other Publications.

The opinions in the Second Circuit show that whatever prior art may have appeared in the record, there was no challenge of the attention thereto of either the trial court or the Court of Appeals.

Each, Judge Orr and Judge Westenhaver, expressly held that there was no invention, within the rule of the authorities, in view of the prior art.

Long prior to Vandenburgh the idea of circular embracing reinforcement of concrete was disclosed by inventors. Sometimes it consisted of lattice work, sometimes of mesh with supporting braces, sometimes of parallel circular bands affixed to spacers, sometimes of spirals likewise affixed, and sometimes of bands wired around uprights.

Hyatt, Br. No. 1715 of 1874 (340) disclosed in Fig. 1 an interlaced lattice container, and in Fig. 4 a spaced spiral, and it was not a spiral which reversed its continuity in the center either. No method of attachment of the spiral to the longitudinal is disclosed. Hyatt says the spiral "*may* be riveted or *otherwise* attached" (134) and appellant's witness Thayer says: "Hyatt meant that he thought that a riveting attachment was the *best* way but that he *left it open* to attach the spiral to the tie in such a manner as the particular constructor preferred to select from the means available in the arts."

Hyatt's claims were not limited as to method of attachment.

Lee & Hodgson, Br. No. 14,559 of 1885 (349) discloses two spirals, continuous but reversed as directed, held in place by an upright spacer. These patentees

used rivets for attachment (347) but did not limit the claim in this respect (348).

Banks, Br. 12,228 of 1893 (363) discloses a rectangular mesh supported by a series of uprights to which the mesh was held in place by *over-lapping tongues.* "For the said distance pieces I *prefer* to employ strips of thin metal bent to form a cross section of U or V shape with flanges at the edges and I secure such strips with their flanged side against the lathing, the flanges being *slit* so that portions thereof *can be bent around* the meshes of the lathing in order to securely fix the strips thereto" (358) as shown in Figs. 4, 5 and 6 (363).

Coignet, Br. No. 24,371 of 1904 (373), Fig. 8 shows circular bands surrounding and *clasped* to upright supports.

Pellegrin, Fr. No. 323,457 of 1902 (381) Fig. 3 discloses a column surrounded by spiral wiring upon numerous longitudinal rods.

Kieserling & Moeller, Gr. No. 73,004, 1892, Figs. 7a b c (395) discloses continuous spiral encirclements evenly spaced *in notched spacing members,* exactly the claimed construction of Vandenburgh except that the notches are not expressly shown as beaten down on so as to enclose the encircling rods. Thayer says as to this series of notches described by the patentee (393) "I would imagine that was *pounded down.*" "That would be the *natural* thing to do, that would be the *assumption* * * * yes" (172-3) as one of the "various possible embodiments" suggested by the patentees (391).

Mollins, Swiss, No. 29,781, 1903 (403) shows equally spaced encircling rods, independent of each other, and fastened to spacers by wiring or metal loops.

Cummings, the president and assignor of the defendant in the Pittsburgh Case, No. 764,883, 1904, (258) discloses both rectangular and circular equally spaced and supported bands surrounding the concrete. Various methods of retaining the bands in place are shown.

In his patent No. 882587 of June 5, 1906, application filed Jan. 6, 1905 (279) Cummings shows circular enclosing bands supported on spacers in "overlapping spurs" punched out of instead of cut into the spacers, and shows instead a clip attaching device in his patent No. 882,931 of 1906, application filed October 22, 1904 (171).

Armand Considere, a French Engineer, the father of scientific investigation of the flow of concrete and its tendency in a column to expand *outward* under *vertical* pressure, said in an article written in French and later translated and published in New York in 1903 that:

> "The good results of hooped concrete depend on the proper arrangement of the hooping. * * * Hoops of two completely different types may be used. One type consists of independent hoops, and the other of continuous helicoidal spirals made of wire or rods as long as possible. If independent hoops are employed, each one must be locked so strongly as not only not to open under the internal pressure of the compressed concrete, but also not to show any appreciable deformation in its connection. Practically it is impossible to connect the countless hoops which an important structure would contain. * * * These inconveniences are avoided by the use of long wires or rods bent into helicoidal spirals. * * * To give concrete a high ductility and to increase at the same time to a high degree its elastic limit and crushing as well as column resistance, the hooping must form close loops and have the least number of joints. These conditions lead to the use

of helicoidal spirals combined with longitudinal rods forming a continuous skeleton which resists efficiently the transverse swelling of the concrete.

"Hooped concrete, the same as concrete-steel generally will take many forms and have many applications which will determine the methods of its construction."

Extended excerpts from article by Considere are found on pages 411 *et seq.* of the record.

Considere did not deem it necesary to tell engineers and craftsmen so simple a thing as how to attach the spirals to the longitudinals. He properly said: "Hooped concrete, the same as concrete-steel generally, *will take many forms* and have many applications which will *determine* the *methods* of its construction" (416).

In an article by Cristophe published in Paris in 1902, he said, among other things:

"The reinforcements of the 'Sidero-cement' pipes (Figs. 634-35 and Figs. 638-39) is formed of small special double Tee sections, curved in spirals, and wired together at intersections with inside straight bars of similar cross section. * *

"The principal bars, situated on the outside, are independent circular hoops or spirals. These bars are wired together. *Or* the wiring may be omitted; the longitudinals then *carry* upon their exterior faces *notches* (appellant's kerfs) regularly spaced to receive the bases of the hoops" (420).

Marquess in the Engineering News of New York, 1904, (425) discusses a design for a reinforced concrete column "*without Patented* features" embodying the idea of equally spaced surrounding and containing bars held in position and supported by bending their ends to holes in the supporting spacers.

A continuous spiral around supporting longitudinals is disclosed in the cut marked "Hooped column in exchange story" in the Engineering News of March 8, 1906 (426).

In the Engineering News of June 15, 1905 (327) it is said:

> "In modern building construction much use is made of the reinforced concrete column. The types of reinforcing are usually easily reduced to one of two general classes—a hooping in the form of a continuous spiral, or a series of independent hoops or loops. Longitudinal bars or rods may be used with either class."

The witness Cummings, in the Pittsburgh case, testified to the actual use of this construction at Hampton, Virginia, in December, 1903, and at numerous other places thereafter in the year 1904 (Pittsburgh record E 14 *et seq.)*. The Pittsburgh record is not in the printed transcript, but is here as an exhibit (484).

The use of appellant's kerf, substantially as he used it, is disclosed in some of the column hooping constructions above referred to. Appellant himself was not relying upon the kerf as an invention. He said:

> "The coils, Fig. 4, are secured in the bar in *any desired manner—for instance*, has hereinafter described * * * As a *preferred* means of securing the coil to the bar, I have shown a series of kerfs 8 in one face of the bar inclined away from the center of the bar towards the opposite end thereof." (50 and 80).

The kerfs, as a means of securing one metallic member transversely to another were well known in the arts. See.

Testimony of Thayer (131).
Admission of appellant (174-5).

Randall, No. 349,603, 1886, (220).
Norwood, No. 571,575, 1896, (235).
Prescott & Bennett, No. 447,162, 1891, (233).
Carson, No. 278,222, 1883, (218).
Harmon, 380,627, 1888, (223).
Bond, No. 432,930, 1890, (238).
Johnson, No. 589,898, 1897, (238).
Miles, No. 429,935, 1890, (228).
McCaul, No. 657,827, 1900, (420).
Caldwell, No. 682,316, 1901, (243).
Salisch, 417,397, 1889, (226).

A pile or post is but a column. The patent to Eason No. 723,651, 1903, (246), shows a concrete post in which the concrete is held within circular bands spaced by spacers and held in kerfs therein, being the present claim of Vandenburgh in every respect except that there are separate parallel loops instead of oppositely inclined spirals.

APPENDIX "D."

If further authorities than *Berger vs. Trussed Concrete Steel Co.* are needed to negative invention, they may be found in this circuit in:

Huebner-Toledo Brew. Co. vs. Matthews Grav. Carrier Co., 253 Fed. (6 C. C. A.) 435, 446:

Adaptation and combination in the perfection of the old idea of a gravity carrier of *numerous* elements each old in *various* arts.

"It must, of course, be conceded that patentable novelty may exist in a combination of old elements; but here the combination claims in suit are lacking in the usual and essential tests of invention. No new function of elements or new method of operation is evolved, and the result achieved is exactly the same as the old one. The settled rule under such facts is that to adapt an old and familiar device to another structure equally old and well known is not to exercise the inventive faculty; it is to apply the skill of the mechanic. *Akron vs. ManhattanRailway Co.*, 132 U. S. 84, 88, 10 Sup. Ct. 24, 33 L. Ed 272; *Peters vs. Active Mfg. Co.*, 129 U. S. 530, 537, 9 Sup. Ct. 389, 32 L. Ed. 738; *Crescent Brewing Co. vs. Gottfried*, 128 U. S. 158, 169, 9 Sup. Ct. 83, 32 L. Ed. 390; *Penn. Railroad vs. Locomotive Truck Co.*, 110 U. S. 490, 494, 4 Sup. Ct. 220, 28 L. Ed. 222; *Weir Frog Co. vs. Porter*, 206 Fed. 670, 676, 124 C. C. A. 470 (C. C. A. 6); *Frederick R. Stearns & Co. vs. Russel*, 85 Fed. 218, 226, 29 C. C. A. 121 (C. C. A. 6); *Indiana Novelty Mfg. Co. vs. Crocker Chair Co.*, 103 Fed. 496, 502, 43 C. C. A. 287, (C. C. A. 7).

"It may further be *conceded that appellee's carriers are better* than the Alvey carriers or any others of the prior art; this, too, is unavailing. It is met by the old rule that a mere carrying forward of the original idea, a change in form, an improvement in degree, without substantial change in either means or result, is not invention. *Railroad Supply Co. vs. Elyria Iron Co.*, 244 U. S. 285, 292, 37 Sup.

Ct. 502, 61 L. Ed. 1136; *Wagner vs. Meccano Limited,* 246 Fed. 603, 608, 158 C. C. A. 573 (C. C. A. 6), and citations. Superiority is not enough. *Grinnell Washing Machine Co. vs. Johnson Co.,* 247 U. S. 426, 38 Sup Ct. 547, 62 L. Ed. 1196. It can scarcely be doubted that the defects if any in the Alvey structures might have been remedied by the skilled mechanic. *Keene vs. New Idea Spreader Co.,* 231 Fed. 701, 710, 145 C. C. A. 589 (C. C. A. 6). This derives emphasis from the changes made in appellee's carrier, as we have pointed them out in the exhibit produced in court.

"It is said that appellee's carrier is not anticipated by any *single* patent; but it is not necessary to show complete anticipation in a single patent. The selection and putting together of the *most desirable* parts of *different* machines in the same or kindred art, making a new machine, but in which each part operates in the same way as it operated before and effects the same result, cannot be invention; such combinations are in the nature of things the evolutions of the mechanic's aptitude rather than the creations of the inventor's faculty. *Thompson vs. Boisselier,* 114 U. S. 1, 11, 5 Sup. Ct. 1042, 29 L. Ed. 76; *Luten vs. Whittier,* 251 Fed. 590,—C. C. A.—, decided by this Court May 7, 1918; *Elite Mfg. Co. vs. Ashland Mfg. Co.,* 235 Fed. 893, 895, 149 C. C. A. 205 (C. C. A. 6); *Kelley vs. Clow,* 89 Fed. 297, 303, 32 C. C. A. 205 (C. C. A. 7); *Keene vs New Idea Spreader Co., supra,* 231 Fed. at pages 708, 709, 145 C. C. A. 589."

Luten vs. Whittier, 251 F. 590;

Adaptation of the principle of retaining wall reinforcement to a "metal concrete arch bridge (substituting the retaining wall of the one for the spandrel wall of the other and the base of the retaining wall for the arch)."

Windsor vs. Mercier, 253 F. 448;

The use in highway vehicles of a dumping body similar to those previously used by railway carriages, although involving "reinforcements and improvements."

Edwards vs. Dayton Mfg. Co., 257 Fed. 980;

A new and useful combination in windows of various old tightening devices.

> "Upon careful consideration of the prior art, and giving due weight to the well-established utility of plaintiff's device and its highly favorable commercial reception, we are unable to find in it room for invention. The most which, to our minds, can be said is that the inventor has, in the exercise of a high degree of mechanical skill, selected and put together the most desirable parts of different devices in the same art, making a new structure, *doubtless better than any which preceded it,* but in which each part operates in substantially the same way as it did in the old and effects substantially the same result. This is not invention." (p. 984).

VanDorn Iron Works vs. Mathes Bros. Co. 260 F. 400;

Combination in mail receiving boxes, according to a new plan, of devices found in one or more other mail receiving boxes for the purpose of performing the same function.

> "Plainly, then, at the time the patent in suit was applied for, the *idea, if not the practice,* of uniting package and letter receptacles with suitable appliances in a single inclosure, and so as to render them accessible on one side or another, and indeed, wholly in front, for depositing and removing the mail, was old. It is true that the receptacles varied in form, location and dimensions, and that the openings for depositing and removing the two classes of

mail likewise varied in these respects, and also in means of protection against theft and effects of weather; and yet, as applied to the patented structure, these variations were negligible, since, in the sense of equivalency, the essential parts of that structure were old, and they severally operate here in the same way as they operated before, and effect the same result." (405)

It is only where there is the *additional circumstances,* bearing on invention as a question of fact, that there has been long unfulfilled an urgent demand and such new combination of old elements for a particular purpose has immediately received the commendation of wide commercial adaptation and use and the taking of licenses in recognition by the public of utility and patentability (not, as in the instant case, where neither the public, the Patent Office nor even the inventor recognized the invention as such), that the courts will turn the balance of the scale in favor of inventive patentability.

Concrete Appliance Co. vs. Meinke, 262 F. 985.

Note the distinction of the court in respect to patentability as between one patent on page 960 and the other on 965.

The rule is the same in other circuits:

Imperial Brass Mfg. Co. vs. Nelson, 203 Fed., (7 C. C. A.) 484, 489:

"*Packing for valve stems*" applied to " a *union* or coupling for firmly connecting the ends of *pipes or rods* to each other."

Stillwell vs. McPherson, 207 Fed. (D. C. N. D. N. Y.) 837, 844 *et seq.*:

Corrugated metal culverts; commercial success, but not invention. A most excellent illustration and discussion of *natural progressive development* in the arts.

Toledo Computing Scale Co. vs. Computing Scale Co., 208 Fed. (7 C. C. A.) 410, 414:

Adapting "back indication" from cash registers to computing scales.

Fischer vs. Automobile Supply Mfg. Co., 209 Fed., (2 C. C. A.) 225:

A hollow flexible power transmitting *shaft* in view of old hollow flexible *tubes.*

Peters vs. Chicago Biscuit Co., 215 Fed., (7 C. C. A.) 724, 726:

Adapting the idea of folded paper for "baskets or pails" to a completely enclosing "carton."

Hansen vs. Stick, 216 Fed. (D. C. W. D. Pa.) 164, 169:

Adapting the method of renewing worn "reamers" to worn "car wheels," the heating and then "expanding" the reduced size to the original required size by rolling or forging, in a similar manner.

H. K. Porter Co. vs. Baldwin Loco. Wks., 219 Fed. (D. C. E. D. Pa.) 226, 232:

Application in the production of *power* of a principle of change in temperature and volume of air in course of transmission therefore disclosed in the art of *refrigeration.* "In one case the atmospheric air *absorbs* heat from the substance within the tubes, and in the other case it *imparts* heat *to* the tubes and the substance therein."

Brown Portable Elevator Co. vs. Interior Warehouse Co., 234 Fed. (D. C. Ore.) 640, 652:

Adding an easily conceivable extension device to the design of a hay stacker, to elevate *fixed sized* boxes in a warehouse instead of *loose hay* in the field.

Quoting the *leading case* of

Mast, Foos & Co. vs. Stover Mfg. Co., 177 U. S. 485, 20 Sup. Ct. 708.

and numerous other illustrative precedents.

Watson Fireproof W. Co. vs. Biersach & Niedermeyer Co., 236 Fed. (7 C. C. A.) 346, 352:

Adaptation of glazing of windows of method of inserting wooden panels in storm doors.

Fetzer vs. Dempster Mill Mfg. Co., 238 Fed. (8 C. C. A.) 238:

Adaptation to press drills of the old "tongue truck" of harvesters.

APPENDIX "E."

The Plaintiff Appellant Has Surrendered His Original Patent, and the Reissue Patent is Utterly Void as to all its Claims. Therefore the Plaintiff Appellant Has no Patent to Consider.

As the *precise* proposition presented has not, as far as noted by the writer, been presented to the Supreme Court of the United States and as the holding of the Court of Appeals of the Seventh Circuit is directly contrary to the asumption of the Court of Appeals in the Second Circuit in the *New York* case that the claims of the original patent repeated in the reissue are valid, we take the liberty of endeavoring to somewhat illuminate the cases hereinafter cited by an *ex cathedra* analysis of the statute authorizing reissues.

The unquestioned purpose of the reissue statute (R. S. 4916) is to enable an inventor to obtain the full benefits of his invention as originally applied for where through innocent inadventence and mistake he has failed to originally secure what he was entitled to upon the substantial disclosures originally made.

He is not entitled to what he may have voluntarily abandoned where such abandonment is express or necessarily inferred by intendment of law.

He is not to secure the benefit of some other additional or different invention. That must be sought by a new and independent application.

To secure a reissue, within the spirit and purpose of this statute, and according to its letter and terms, certain essential jurisdictional conditions precedent must exist:

In the first place, the reissue must be for the "same invention." The inventor is only permitted to perfect his right under the original invention as it actually was.

In the second place, the inventor must have failed to originally perfect his actual rights through innocent and not fraudulent inadvertence and mistake. Whether the defect in securing originally the rights to which the inventor was entitled was due to "mistake" and innocent, and "without any fraudulent or deceptive intent" is a question of fact upon which the Commissioner's decision is final unless the record affirmatively discloses to the court that the Commissioner was wrong in this respect.

In the *third* place, the Commissioner's *jurisdictional authority* exists only

> "whenever any patent is *inoperative or invalid* by reason of (a) a defective or insufficient specification *or* (b) by reason of the patentee claiming as his own invention or discovery *more* than he had a right to claim as new."

It is the application of this particular provision of the statute upon which depends our contention that where the *original* claims are *repeated* in the reissue, together with new claims, and it appears that the *new* claims did not justify the reissue, there was *no jurisdiction* whatever for the reissue, and the reissue, *as a whole*, is invalid.

The jurisdiction only exists "whenever any patent is inoperative or invalid." This does not mean that it is "inoperative or invalid" as a whole but only that it must be "inoperative or invalid" to *some* extent, so that the inventor has not originally secured *all* that he was entitled to.

If the inoperativeness or invalidity of the patent, in whole or in part, is "by reason of a defective or insufficient specification" (the term "specification" includes the claims as well as the description), the inventor may

amend his claims without change in the description, if it is still for the "same invention" and the claims are supported by the description, even though he may *broaden* his claims in order to secure what he was originally entitled to, subject, however, to the limitation imposed by the court under equitable principles, and not by the statute, of estoppel against those who have established "intervening rights" prior more than the two year period allowed for the presentation of an original application, to the presentation of the application for reissue.

If the reissue is asked "by reason of the patentee (in his original patent) claiming as his own invention or discovery *more* than he had a right to claim as new," then the only privilege allowable is to *narrow* the claims to the point where they are supported by the disclosure of the description to the end that the inventor may not be defeated in his right to what he originally invented by having inadvertently claimed too broadly. This privilege of R. S. 4916 is but another method of protecting the inventor in the same way that he might protect himself by disclaimer under R. S. 4917.

Now, if the inventor's original patent was *not* "inoperative or invalid" for one of the two reasons above, he had no occasion to apply to the Patent Office for relief, and the statute does not grant to the Commissioner any authority to *reissue* the *same* patent as was originally issued. Unless there is *reason* for granting the inventor something *different*, there is *no authority* for granting him *anything at all*. If the Commissioner attempts to give to the inventor by reissue *only what he already had*, he is without authority, and gives the inventor nothing.

Of course, if the original patent is "inoperative and invalid" not necessarily as a whole, but as to some part

of it, so that the inventor is entitled to a reissue to correct his description, he may obtain a reissue with the corrected description and repeat his original claims. Equally of course, if the original description is correct, but the patent "inoperative and invalid," even though "inoperative and invalid" only as to part of the claims, the inventor may have a reissue patent upon the same description and renew all or part of his original claims *if* it is necessary to the protection of his rights to add *some* additional claims or change *some* of the original claims. In such event, *if* the conditions otherwise warrant, the old claims repeated are equally valid with the new claims or the changed claims included in the reissue. But if it develops that the discription remains unchanged and some of the claims remain unchanged, and it be determined that there existed *no* conditions authorizing the granting of the new or modified claims, then there was no occasion *whatever* for granting the re-issue, the jurisdiction fails, and the reissue is a nullity.

Consider the appellant's reissue with reference, for convenience, solely to claims 1, 2, 3 and 5. Claims 3 and 5 were identically the same as in the original patent. The description and disclosures was identically the same as in the original patent. The only change, except to add the new claims found to be invalid, was to correct a typographical error in original claim 3, repeated as claim 3 of the reissue, by changing "end" to "edge." This typograph error was immaterial and did not affect the force of the original patent (253 F. 143, 262 F. 96). The only jurisdiction to grant a reissue with claim 3 and 5 or any other claims in it, was the assumption that claims 1 and 2 of the original patent were part of a "defective or insufficient specification" which was attempted to be made effective and sufficient by reissue claims 1 and 2. There

is no pretense of a right to support the jurisdiction of the Commissioner to reissue on the ground that appellant had erred in his original patent by "claiming as his own invention or discovery *more* than he had a right to claim as new." Accordingly, when it appears that appellant's original claims 1 and 2 did not constitute a "defective or insufficient specification," *every* basis for the jurisdiction to reissue proves to have been nonexistent, and the Commissioner *had no authority to take any action whatever in the premises.*

As against the conclusion of the Court of Appeals in the Second Circuit, we cite two opinions in the Court of Appeals of the Seventh Circuit by Judge Baker, a Nestor of the Patent Bench, holding that when the jurisdictional ground for reissue is nonexistent, the reissue patent is "utterly void." These opinions, particularly the latter, are so full of meat and cogent argument that we do not attempt to excerpt from them. *We ask their full and detailed consideration by this Court.*

General Electric Co. vs. Richmond Street & I. Ry. Co., 84 Fed. 178.

McDowell vs. Ideal Concrete Machine Co., 187 Fed. 815.

After a careful effort to review all of the decided cases, we feel justified in stating that no court has even *said* that a reissue patent that contains nothing sustainable except what the patentee *already had* in his original patent was valid, except as a *dictum*, where the point was not fully considered because not necessary to the decision of the case, the decision necessarily resulting from some other factor involved.

There are only two opinions of the Supreme Court of the United States which, even by expression, seem to

lend support to the theory that although a reissue patent may be invalid as to everything *new* therein, nevertheless it may be held valid as to the *old* matter repeated from the original surrendered patent. In neither of these cases were such expressions *necessary* to the decision, because, in each case, the *validity* of the *old claims repeated* was not in issue, the old claims not being infringed in either case.

In *Mahn vs. Harwood*, 112 U. S. 354, controlling opinion 5 S. C. R., 174, dissenting opinion 6 S. C. R., 451, the majority opinion held that a reissue patent was invalid if the Commissioner "exceeded his authority in granting" it. In arguing the question of jurisdiction or authority upon the part of the Commissioner, the court *illustrates* such lack of authority by reference to the terms of the statute excluding a reissue for "a different invention," and says "it is no doubt a *general rule* that where the commissioner has *exceeded his authority* in granting or reissuing a patent, such fact furnishes a good defence to a suit brought for its infringement." The particular excess of authority which was the *point of decision* in the Mahn case was that the commissioner had granted the reissue after an unreasonable lapse of time, in that case, four years. For this reason, the court refused to enforce the patent as to the *new* claims 1, 2 and 3. The fourth claim was substantially the same as in the original patent. But the court concludes:

> "As this leaves only the fouth claim to be considered, and as it is clear from the evidence in the case that the appellant did *not infringe* that claim, the decree of the Circuit Court must be affirmed."

From the foregoing it is clear that the point of *decision* went only to the question of the new claims upon reissue. It is true that the court, referring to lack

of jurisdiction for reissue, uses the expression, "the patent will be considered as void to the *extent of* such illegality" but this was a mere *dictum*, as the court was not called upon to *decide* whether the reissue *as a whole* was void.

So, in the case of *Gage vs. Herring*, cited by the Court of Appeals for the Second Circuit as supporting the statement, "the fact that claims 1 and 2 of the reissue are invalid, as too broad, does not invalidate claims 3 and 5," the question of the validity of the patent as a whole and the enforceability of the old claims was ***not involved.*** In *Gage vs. Herring* the court said:

> "The new claim in the reissue being invalid, and the defendants *not having infringed* the entire combination set forth in the *repetition of the old claims*, the decree below can neither be upheld upon the new claim, nor modified so as to apply to the other claim, but must be reversed and the case remanded, with directions to dismiss the bill."

The value of *dicta* is well stated by the Court of Appeals of the Eighth Circuit in a case in which it rendered a decision contrary to a *dictum* of the Supreme Court of the United States *four times repeated* in different decisions.

> "Those statements are not authoritative in this case because the authority of general expressions and broad statements in the opinions of courts is always limited to the specific questions which they were considering and deciding when they were used. *Cohens vs. Virginia*, 6 Wheat. 264, 339,"

and many other cases cited.

King vs. Pomeroy, 121 Fed. 287, 294.

The Court of Appeals of this Circuit, referring to expressions found in cases concerning invalidity of a reissue made for the mere purpose of broadening the claim, expressed the same opinion:

"Some of them do contain language to this seeming effect, yet we think in each the rule will be found sufficiently controlled by *laches*, intervening rights, rewritten or altered description or drawing or other clearly distinguishing fact."

American Automotoneer Co. vs. Porter, 232 Fed. 456, 461.

On the contrary, in other cases, and in the very latest expression of the Supreme Court of the United States on the subject, it is clearly indicated as the opinion of the court that the reissue is void as a whole. The court quotes earlier expressions under earlier statutes directly to that effect, and in the same connection cites *Gage vs. Herring*. It is apparent that the court itself, in its latest expression, (*Ebey vs. King, infra*) did *not* see in *Gage vs. Herring* any such decision as is found therein by the Court of Appeals of the Second Circuit. We quote the syllabi discussing the point *decided*:

"(1) A patent surrendered for reissue is cancelled in law, as well when the reissue is denied as when it is granted.

(2) Since the surrender of the patent in this case, a new clause in the patent law, declaring that the surrender 'shall take effect upon the issue of the amended patent,' is retained in Section 4916 of the Revised Statutes. What may be the effect of this provision in cases where a reissue is refused, this court does not *now* decide. *Peck vs. Collins*, 103 U. S. 660."

We quote from the opinion itself expressions on the instant question:

"Had the plaintiff, in his reissue, confined himself to the correction of an error so manifest, we should have found little difficulty in sustaining it; but in his application, which was made four years

after the original patent, he makes no claim that his patent 'was inoperative or invalid by reason of a defective or insufficient specification,' or by reason of his having claimed 'more than he had a right to claim as new,' or that any error had arisen 'by inadvertence, accident, or mistake' *without which the commissioner has no right to grant a reissue,* but simply prays that he may be allowed to surrender his original patent, and that 'letters patent may be reissued to him for the same invention, upon the annexed amended specification.' He makes no reference at all to the obvious mistake in his first claim, and, although the point is not distinctly made in the briefs, we think it a serious question whether the commissioner of patents had any jurisdiction under Rev. St. Sec. 4916, to consider the application upon the bare statement that the patentee desired to surrender his patent and obtain a reissue. The commissioner is authorized to reissue patents in certain specified cases, and, if the petition makes no pretense of setting forth facts entitling the patentee to a reissue, it is exceedingly doubtful whether he obtains any jurisdiction to act at all.

* * * * * * *

"Under the rulings of this Court, it is clear that this reissue *cannot be supported.* Not only was there *no claim of a defective or insufficient specification,* none that the patentee had claimed as his own invention *more than he had a right to claim as new,* none of inadvertence, accident, or mistake, but, four years after the original patent was issued, the patentee attempts to secure a reissue, with claims broadened for the purpose of covering that which is presumed to have been once abandoned to the public. *All that has ever been said by this Court in restraint of the practice of reissuing patents applies with full force to this case. White vs. Dunbar,* 119 U. S. 47, 7 Sup. Ct. 72; *Ives vs. Sargent,* 119 U. S. 652, 7 Sup. Ct. 436; *Dunham vs. Manufacturing Co.,* 154 U. S. 103, 14 Sup. Ct. 986.

"*A further question* arises whether, where a patent has been surrendered and reissued, and such reissue is held to be void, the patentee may proceed upon his original patent; *in other words, whether the surrender is good, though the reissue be void.* As the law stood until 1870, it was held in *Miffit vs. Garr,* 1 Black, 273, that the surrender of a patent under the act of 1836 was a legal cancellation of it; that no right could afterwards be asserted upon it; and even that suits pending for an infringement of such patent fell with surrender, because the foundation upon which they were commenced no longer existed. See also, *Reedy vs. Scott,* 23 Wall. 352, 364.

"By the act of July 8, 1870 (Rev. St. Sec. 4916) it was declared that the surrender shall take effect upon the issue of the amended patent; but it was intimated in *Peck vs. Collins,* 103 U. S. 660, that the effect of an adverse decision on the title of a patentee to the invention would be *as fatal* to the *original* letters as to his *right to a reissue.* In delivering the opinion of the court, Mr. Justice Bradley observed that 'since the decision of this case *(Moffit vs. Garr)* it has been uniformly held that, if a reissue is granted, the patentee has no rights *except such as grow out of the reissued patent.* He has *none under the original.* That is *extinguished* * * *. No damages can be recovered for any acts of infringement committed prior to the reissue * * *. It seems to us equally clear that, as the law stood when that decision was made, * * * a patent surrendered for reissue was canceled in law as well when the application was rejected as when it was granted. The patentee was in the same situation as he would have been if his original application for a patent had been rejected. * * * Surrender of the patent was an abandonment of it, and the applicant for reissue *took upon himself the risk* of getting a reissue, or *of losing all. A failure upon the merits,* in a *contest with other claimants,* only gave *additional force* to the *legal effect* of the surrender.'

In *McMurray vs. Mallory*, 111 U. S. 97, 4 Sup. Ct. 375, it was held that the patentee who had surrendered his patent, and taken reissued letters on a new specification and for new claims, *could not abandon the reissue and resume the original patent by a disclaimer.* 'This,' said Mr. Justice Woods, 'could be done only, if it could be done at all, by surrender of the reissued patent, and the grant of another reissue.' See also, *Gage vs. Herring*, 107 U. S. 640, 2 Sup. Ct. 819."

Eby vs. King, 158 U. S. 366, 15 Sup. Ct. 972.

It should be observed that in this *later* decision of the Supreme Court of the United States, it saw nothing in *Gage vs. Herring* inconsistent with the foregoing opinions as later expressed.

There is a moral feature involved in this question which should not be lost to view. It is aptly illustrated in the case of appellant's patent. A claimed inventor, at his peril, demands and secures even in his *original* patent broader claims than he is entitled to. He may remedy *this* by disclaimer. If he insists on *more* than he can rightfully sustain, he fails altogether. He is not allowed to fall back on what he *might* have properly secured. Likewise, a patentee may, as appellant *did*, conceive, from the development of an art subsequent to the issuance of his patent and during a period when he has lain quiescent and done nothing to commercialize his claimed invention, that *a valuable field has been opened* up which he *should have* anticipated and monopolized, and that he may, through a reissue, yet be sucessful in monopolizing. He presents his application for reissue to the Patent Office without anyone but the officials of that office to say him nay. It is an *ex parte* application. He is *gambling* for a prize. The *stake* required of him by the statute is the *surrender of his original* patent. He surrenders it in the

hope of grasping more than he originally had. His aims are selfish and to the detriment of those who have developed the art in the interim. He secures his reissue patent. He brings suit upon it. He puts the defendant to the risk of an adverse decision and an acounting of profits to the earning of which the plaintiff has contributed nothing. He puts the defendant to the expense of the defense in this case. It is finally determined that he had no valid ground for claiming anything more than *he originally had*. He has surrendered what he originally had. He has procured the action of the Patent Office without occasion for such action and on the faith of a surrender of the original patent and *his own* assertion that the original patent was ineffective to protect his claimed rights. *Why should he still be left to enjoy all of the benefits of the surrendered patent?*

ADDITIONAL SUGGESTIONS.

At the bottom of page 1 and the top of page 2 of petitioner's brief, the alleged invention of petitioner is referred to as "a coil of wire with longitudinal *spacing* or *reinforcing* bars having integral spurs for holding the coils *in place.*"

Applied to the use of the product known as "column hooping" for reinforced concrete columns, this statement is directly contradictory to the testimony of petitioner's witness Thayer, who explains that in column hooping (as distinguished from *bars,* with or without *auxiliary* members, whether straight or in loops), the longitudinals (which in *beams* are used for and calculated as *reinforcement*), are mere *spacers* which serve no purpose except to hold the coils of the spiral *in place* so that they will remain evenly disposed in parallel relation to each other until after the concrete has been poured, tamped, and set, whereupon the concrete itself is a sufficient "spacer," and the original longitudinal spacer ceases to function—*ceases to be* "reinforcement." Thayer says that in column hooping these small spacers would not give "any substantial calculable results in a column." "It would not amount to very much. It would be small. It would not be worth figuring. * * * It might really be a detriment. They would serve *no substantial function* except as a spacer for the spirals." (Transcp. 139.)

It is for this reason that designers of column hooping use as *small* a spacing bar as will suffice for the temporary purpose of maintaining the spacing. (Thayer-Transcp. 89.)

See cuts of various column hooping construction (211), appellee's construction being Exhibit 2. Exhibit 1 is a model prepared by appellant.

"ART" AND "INVENTION."

Counsel for respondent-defendant conceives it to be an advantage that he first came to the consideration of the patent law after nearly forty years of general practice, and conceives the patent law not to be the abstruse specialty its practitioners regard it. It seems to embrace nothing but the application of general legal principles to the construction of a statute, intended to form the basis of a contract between the Government on behalf of the people at large and an inventor, to exchange the privilege of temporary monopoly for the gift of a material advancement in the arts, regulated in practice by the application of the principles of the chancery courts in which it is administered, such as laches and estoppel, by judges applying broad legal principles; beyond which lie only the questions of fact as to novelty and invention.

In the development of the patent law by its specializing practitioners the use of sonorous phrases and general terms has developed to the point of giving greater sanctity to the terms than the principles involved in the cases where the courts first began to use them. Directly, we have involved such terms as "art" and "analogous art" as applied to the question of fact involved in determination of "invention."

It seems worth while, occasionally, to come back to the fundamental principles. If an architect desires a frame structure with a roof, he may provide, in the roof, for rafters, sheathing, and shingles. He wants the rafters firmly attached to constitute a frame work. He wants the sheathing firmly attached to the rafters to support the shingles. And he wants the shingles firmly fastened to the sheathing in proper relation to produce a watershed. But he does not care, so long as the respective parts so designed are firmly attached to each other, whether the carpenter who does the job bolts the rafters

together, or screws them together, or adequately mortises them, or nails them with wrought iron nails, or steel cut nails, or wire nails, or uses many nails of a smaller size or fewer nails of a larger size, or what choice the carpenter uses in his method of attaching the sheathing to the rafters; or whether the shingles are nailed with one kind of nail or another, or many small nails, or few larger ones, or whether the nails are driven in straight, or driven in diagonally, or what method the carpenter uses as long as he accomplishes the architect's purpose of firmly attaching the various elements of construction one after the other to the other. The "art" of the architect is one thing to design what he wants: the "art" of the carpenter is another to execute that design in *any* sufficient manner.

But, in the Patent Office, and in the courts, the alleged inventor who seeks to escape the effect of the law as laid down in Atlantic Works vs. Brady, 107 U. S. 192-205, and seizes as an invention upon any natural and ordinary method of adaptation, sounds to the four corners of the earth the theory of a "new combination."

Applied to the case at bar, the designing engineer who is laying-out a reinforced concrete structure, columns, beams, floors, stairways, and what not, takes his knowledge in the "art" of the engineer to calculate what stresses in compression a given quantity of a given mixture of concrete, arranged in a given form, will stand, and what tensional stresses a given amount of steel, located in a given place in the concrete, and straight, curved, diagonal, or otherwise arranged, will furnish, and what combination of these combined materials will meet the required stresses of the loads that are intended or expected upon the various parts of the structure he is designing. Thereupon, the engineer, in his "art" completes his design showing quantities, shape and location of the two speci-

fied materials. Thereupon, the engineer applies to the metal worker in the "art" of the latter, to prepare him the metallic elements conforming to his design. If only straight rods are to be used, they are purchased from the mill in required sectional areas and cut to required lengths. If they are to be bent, the metal worker bends them. If the engineer prepares his design so as to require stirrups running at right angles from longitudinal metal members, the metal worker prepares the stirrups and provides means for attaching them to the longitudinal rods or bars. If the engineer's design calls for diagonal members, either straight or curved in loops, attached to the main longitudinals, the metal worker prepares them and attaches them in some proper manner. The method of attachment is one of the known greatest economy that will furnish sufficient attachment. The auxiliary members may be made by striking them up from integral fins upon the longitudinal or by riveting them, or tieing them around, or running them through holes with bolts to hold them in place, or any other manner that will accomplish the purpose. The construction of the structure designed by the engineer is the "art" of the metal worker. Then the carpenter comes in with his "art." He builds forms in which the design of the engineer constructed by the metal worker may be placed and held while the fluid concrete is poured in and set. And finally comes the "art" of the concrete mixer, pourer, and tamper, who mixes the concrete in the proportions and kinds of cement, sand, or rock or gravel, specified by the engineer as producing a concrete with the compressive resistance required by his design, and pours or tamps it around the metal structure placed in the carpenter's forms, and leaves it there to set. And finally, the "art" of the carpenter comes back and removes the form, and the structure is built.

In the construction of reinforced concrete columns

engineers had long known and disclosed that a desirable reinforcement against the tendency of a column to spread or spawl laterally under vertical pressure, could be best resisted by encircling metallic bands either individual or consisting of a continuous coil so closely placed that it amounted to practically a series of horizontal parallel bands, and that it was necessary in putting these into the carpenter's molds and keeping them in place while the concrete was poured and tamped, that the coils should be temporarily held in place by some sort of spacer against displacement during the pouring and tamping of the concrete until the concrete set and the spacer ceased to function. Whether the coils should be riveted to the spacer, wired to the spacer, set in either diagonal or rectangular notches in the spacer; whether they should be held in the spacer rigidly, involving bulk in shipment, or could be held loosely in the spacer so as to collapse in shipment and still be held sufficiently in place during the pouring and tamping of the concrete, were all problems for the "art" of the metal worker, and not the "art" of concrete reinforcement in the sense of the "art" of the designing engineer. The engineer didn't care how it was done as long as it was done. The metal worker was free to adopt what seemed the best expedient known to his "art." Scores of ways of accomplishing this purpose in handling a metal structure were known, as was also known the general principle of column hooping, long before Vandenburgh. Each the diagonal kerf with the overlapping spur and the rectangular notch with the peened edges were among them. The record shows it. Petitioner's witness Thayer testified to it. Petitioner's counsel admits it on the record. The metal worker needed no instruction from Vandenburgh in accomplishing this purpose. This would seem to dispose of the idea of invention, or of an alleged new "combination," or any question of whether the methods of affixing one

metal member to another were in one art, or in some "analogous" or "non-analogous" art.

We think the foregoing disposes of the quotation from the court below found on page 3 of petitioner's brief. Petitioner seems to think that everything the court decided against him was wrong and that everything the court below indicated or assumed in his favor was right, and is conclusively disposed of.

FORM OF PROOF.

On pages 5 and 6 of his brief, petitioner says that the testimony in the trial court should not be considered now because "printed publications offered in evidence were insufficiently proved." A sufficient answer to this, if any answer is necessary, is that this question was not raised by the errors assigned in the Court of Appeals (Transcp. 479); and this court is acting as a court of review. If there was any such error, it has been waived.

ACTION IN THE PATENT OFFICE.

On page 6 of petitioner's brief he says that "The art shows the invention to be a pioneer patent in its limited field, a cloud of patents on the same subject-matter following closely after Vandenburgh."

We have referred in our brief below (*supra,* 41 *et seq.*) to the remarkable fact that if this was a patent on column hooping at all its disclosure was not sufficient to suggest to any of those who have used "thousands of tons" (Petitioner's Brief, 10) of this material that they apply to petitioner for the privilege of using it, or suggest to the Examiner who issued petitioner's patent, and thereafter issued a "cloud of patents" on column hooping, some of which were co-pending with each Vandenburgh's original patent and his re-issue, that the patent of petitioner was some reason why the other patents

should have been put into interference or refused. Petitioner's witness Thayer says that, assuming petitioner's contention as to his invention being correct, the subsequent patents necessarily cover the same invention and should have been put in interference or rejected on account of previous patent (Transcp. 185-186-188-189). It is passing strange that the Examiner could not see this.

REINFORCING.

On page 10 of his brief, petitioner says that the "fact that defendant uses a *small* bar in no way changes its character as *reinforcing,*" but petitioner's witness Thayer says that structures of the character of defendant's did not use the "*small* bar * * * as *reinforcing*" at all. See testimony of Thayer hereinbefore referred to as to the spacer serving "no substantial function except as a spacer." (Transcript 139, 189, 211.)

IMPRESS ON THE ARTS.

Petitioner reiterates, *i. e.*, brief, page 14, that his invention substantially displaced all other forms of columnar reinforcement. The testimony shows the development of the art in apparently entire ignorance of plaintiff. Whether plaintiff invented what he now claims or not the rest of the world never found it out. It simply went on under the principle in Atlantic Works v. Brady, doing the obvious thing when the cheapening of cement, knowledge of reinforced concrete, engineering generally, the availability of the required kinds of steel, and the demand for fire proof construction, called for its use.

KIESERLING PATENT.

On page 20 of petitioner's brief he refers to this patent which, entirely aside from any question of invention, is cited by us as a complete anticipation (*supra*

22). Petitioner asserts on page 20 of brief that in Kieserling's patent the "spirals were set in notches but no holding means of any kind was shown. *Undoubtedly wires were used* at that time to hold the spirals in place." As we have pointed out (*supra* 22), Kieserling provided for a structure where the diagonals must, to be effective, be held in place "in both directions," and shows one means of accomplishing that in his figure 7b, and while the drawing does not show directly, nor the Kieserling specification state, how the coils in figure 7c were held in the notches, petitioner's witness Thayer does not agree with the writer of petitioner's brief that "undoubtedly wires were used," but says that at that time "peening down the adjacent metal so as to create a projection in the process of peening, * * * was well known in the metal working art" and directly of Kieserling:

> "A. He does not show any pounding down, but I imagine that was pounded down.
> "Q. That would be the natural thing to do. That would be the assumption. * * *
> "A. Yes." (171-172.)

INFRINGEMENT.

Petitioner's argument on the subject of infringement by the defendant (brief 22) in this case appears to put the petitioner upon the horns of a dilemma, not referred to in our brief in the court below. This defendant uses a rectangular notch with peening on each side. If petitioner's claims cover this construction, then they were invalid because anticipated; if, to uphold the patent, it may be held that the broad claims of petitioner are limited so as to exclude this anticipating device, then defendant does not infringe.

PRE-DATING TESTIMONY.

On account of the date of the references, the date of petitioner's conception is not particularly material. However, the testimony referrd to in petitioner's brief (p. 25), as on page 101, does not show any preconception of the device of the patent, whatever that may be. The witness Blethyn says that he recognizes the drawings in the Vandenburgh patent. He says that he made a "test of the Vandenburgh *reinforcing.*" But *which?* The drawings show a number of kinds.

In the trial court, witness Blethyn produced a sample which consisted of a section of a bar about three feet long, three inches wide, and a quarter of an inch thick, with some notches cut in the edge. The notches were wide enough to accommodate a coil about one-eighth to three-sixteenths of an inch in diameter, as the writer recollects. In any event, the bar produced had a score or so times the sectional area of the coil which it was intended to hold. That bar should be before this court as a physical exhibit. That it had nothing to do with a structure to be used for column hooping is demonstrated by the testimony of petitioner's witness Thayer that while in beam construction the *longitudinal* is the *main* thing and the *diagonals* are *auxiliary,* in column hooping the *sole figured reinforcement* is the encircling coil, and the longitudinal is merely a spacer for temporary use and disregarded in the calculations. A longitudinal bar *twenty to forty times the sectional area* of the coil would not meet anybody's idea of the mere *spacer* for column hooping.

Where time of invention or reduction to practice, whether relating to an alleged anticipating use or to an effort of a patentee to pre-date his application date, the proof must be "beyond a reasonable doubt." Drum v. Turner (8 C. C. A.) 219 Fed. 188, 198 and cases cited. 38 Century Digest, Patents, Secs. 121-123.

RIGIDITY.

On page 32 of his brief, petitioner is still contesting the proposition that his original structure provides for coils held rigidly in place, despite the finding of every court that has passed on the question that such was petitioner's original intention. That intention was not dependent upon the manner in which the coil was held under the overlapping spur of the patent, but upon the fact that the patent provided for a construction which would develop "truss" action; *and it would be absolutely impossible to develop truss action unless there was such rigidity in the arrangement.*

The word "truss" is familiar in engineering. The Pratt truss and the Howe truss of bridges are familiar to our boyhood days. Try and imagine a bridge across a stream with the truss members bendably attached to each other by hinges at the point of connection.

Respectfully submitted,

W. F. GUTHRIE,
Of Counsel for Defendant,
Youngston, Ohio.